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**APPLEWORKS:**

*Dress Your Resume  
For Success*

*p. 82*

THE APPLE II MAGAZINE

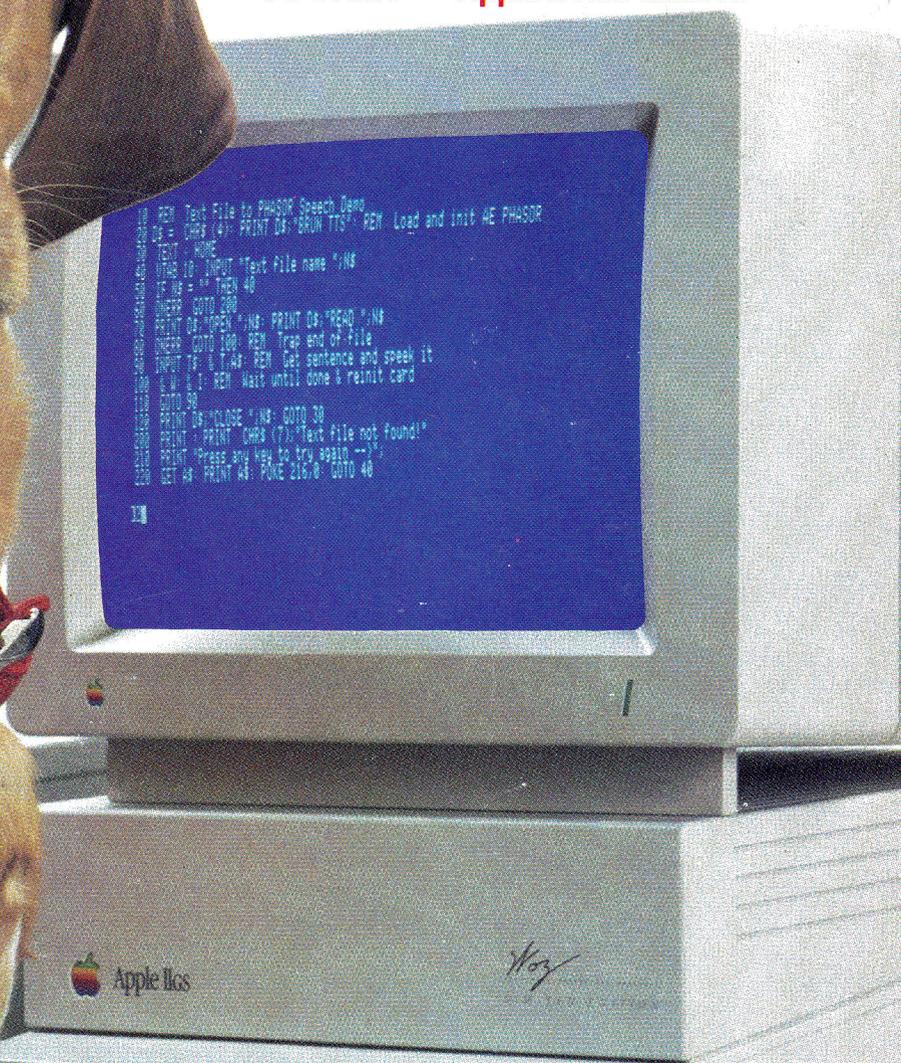
# incider

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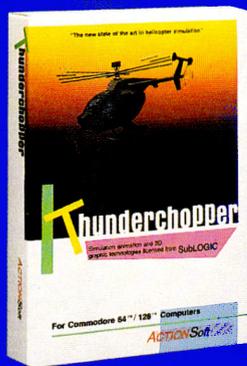
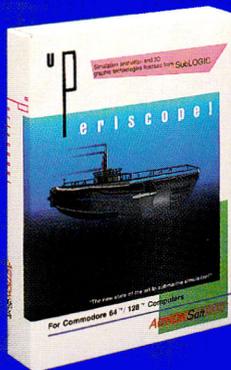
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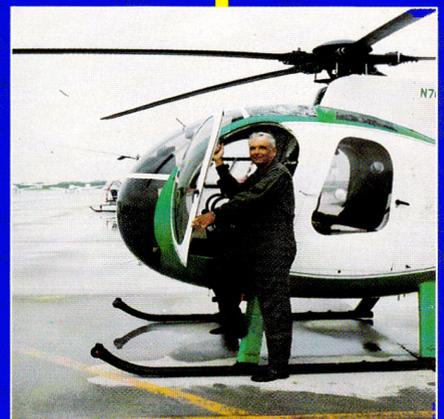
Colonel John B. Rosenow, USAF (Ret.)  
President, ActionSoft Corp.



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Colonel Jack provided the strategy and tactics for ThunderChopper

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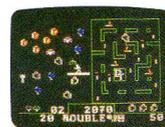
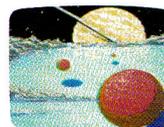
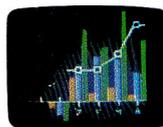
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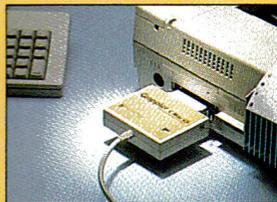
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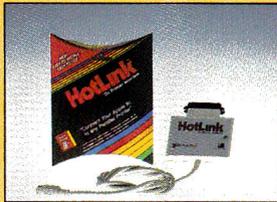


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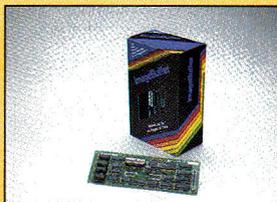
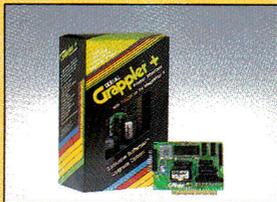


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# HOT. MEAN. RADIO- ACTIVE.

**AUGUST 20, 2087**

Nothing could be worse than this god-forsaken, radioactive desert.

More Sniperdroids! All tracking me with them death glares. And them Uzis. They're weird trigger-twitchin' folks. I suspect it's them poisoning the water.

Or maybe it's those Leather Thugs. Heck, I don't know anymore. I heard they have a bunch of civilians cut off east of Ranger Center, which is where I'm headed. Hope not. They want me dead. Like every other mutant this side of Vegas.

The worst part is, I'm getting to be as bad as they are. You wouldn't believe some of the ways I've learned to kill. I hang out in sewers, and my best friend is a MAC 17 submachine gun.

Gramps talked about life before the nuclear war. All I know is I don't want others living this way. Gotta rebuild this desert right. Gotta make it so you can sleep with your eyes closed.

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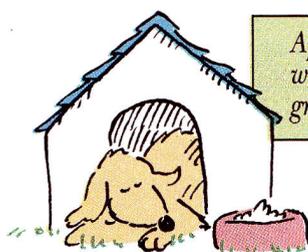
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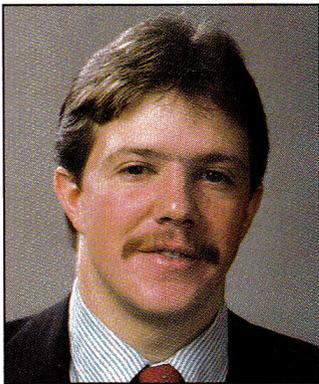
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Applesoft Adviser will return in July with part 2 of a series on hi-res-graphing techniques.

## GS Works Closes a Window

by Dan Muse, Editor in Chief



*"It's not AppleWorks, but it may be better. StyleWare seizes the opportunity to both sell a lot of software and help sell the GS."*

The Apple IIGS is a sophisticated 16-bit computer. The only problem we at *inCider* have with the GS is that the best integrated productivity package for it is an 8-bit program that functions equally well on an Apple IIe with extra memory and an accelerator card.

We're not alone. We've heard from many IIGS owners who feel cheated because there's no ProDOS 16 version of AppleWorks. Maybe *cheated* is too strong a word, but there's something odd about buying a new, expensive computer and using old software on it.

As we approach the two-year anniversary of the GS' introduction, however, we're happy to finally report that a 16-bit multi-application program has been announced. It's not AppleWorks, but it may be better. GS Works, from StyleWare, is more than the patient—or even the not-so-patient—GS owner could have hoped for. In addition to the “big three” applications (word processor, database manager, spreadsheet), it offers desktop publishing, telecommunications, and graphics capabilities. (See News Line, p. 20 in this issue, and watch for more details next month.)

It's not surprising that StyleWare, a company that makes its living selling nothing but Apple II productivity software, developed an integrated GS package. It's surprising and significant, however, that Claris Corporation *didn't*.

Claris may announce a rival to StyleWare's GS Works. Whether or not it does, the point is moot. Claris is a self-proclaimed Macintosh software company. It has given AppleWorks some necessary life-support systems—a generous upgrade policy and competent technical support. But those features stand out only because Apple ignored the product so badly before it created Claris.

Last April, when Claris was formed as an independent software company to support

some of the existing Apple-label software and to develop new programs, we had great hope for the future of AppleWorks—8-bit and 16-bit versions. After all, Apple Computer is a hardware company, and we could almost understand its lack of interest in AppleWorks. As Claris grew and took shape as a company, however, the family resemblance between it and Apple became clearer.

Claris, like Apple or any other computer or software company, is a business, and it exists to make a profit. Certainly there's no plot to pull the plug on AppleWorks. Claris sees the biggest potential for profit in the Macintosh market, but what it doesn't see is that AppleWorks is strong enough to support an industry by itself. There's a “window of opportunity” to both sell a lot of software and help sell IIGSs. Claris' failure to lead the market with a 16-bit AppleWorks isn't just disappointing for Apple II users, it's simply a bad business decision.

StyleWare may have closed that window with GS Works. The program should support third-party development and create an add-on market for companies such as Beagle Bros and Pinpoint.

As Claris goes off to fight the Microsofts, Ashton Tates, and Lotus of the world on Macintosh battlefields, a small but dedicated group of Apple II programmers stands to do well if the IIGS does well. And it is. Last December, the GS was the highest-selling Apple computer, outselling the Mac SE and Mac Plus combined, according to InfoCorp, a research company based in Cupertino, California.

We applaud StyleWare for having the vision to invest its resources in the IIGS. All visions aside, business is business. Claris, take note: AppleWorks is second only to 1-2-3 as the most popular software program of all time. To not cash in on it is foolish. ■

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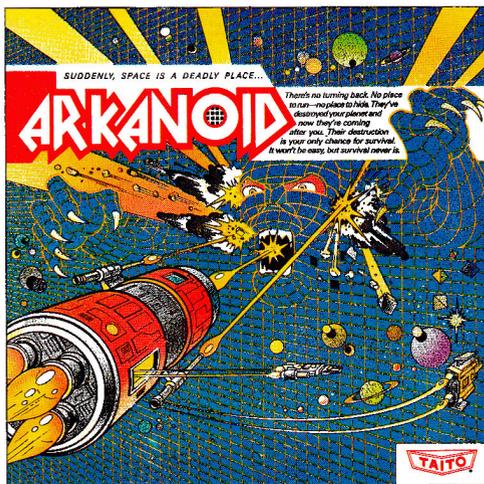
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*ARKANOID: 33 screens of increasing challenge. Award winning coin-op hit. "One of the best ever."—Electronic Game Player Magazine.*

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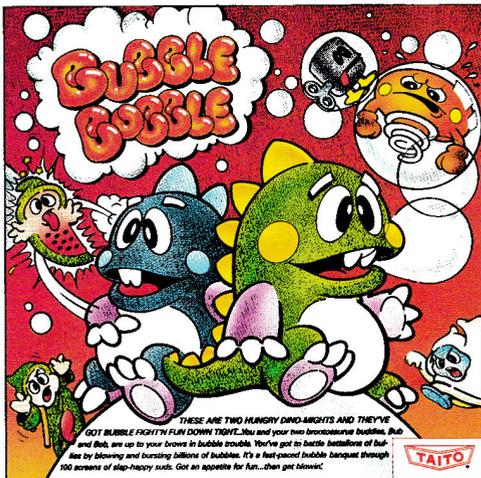
*Because arcade games are the benchmark for home video games, Taito's leadership*

*in the arcade industry means that when you buy Taito products you'll get more home video thrills—more mesmerizing arcade quality graphics, sound and above all, action!*

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## Chip Shot

I read recently that a new breakthrough—the 80386 microchip—will be found in 50 different computers by the first half of 1988. Does Apple plan to introduce this chip soon?

**David Ansel**  
Owings Mills, MD

*We haven't heard that Apple plans to use what IBM is now using: intelligent microprocessors. Applied Engineering's PC Transporter is now available, however; it plugs into an expansion slot in the IIGS and lets you use MS-DOS programs on your Apple. That card uses an NEC V-30, which is related to the Intel 8088 microprocessor. See our review, p. 77. —eds.*

## GS Wish List

After using my exciting IIGS for a few months, I've developed a wish list of products I'd like to use with the computer. Unfortunately, to my knowledge, none of the following products is currently available:

- 1) Instant Music has shown me what kind of sound this machine can make, but what the GS really needs is a piano-type keyboard.
- 2) Video is where it's at, and the superhi-res capability of the GS combined with its large memory makes it a natural for generating video titles, credits, and special effects. How about a program that lets you overlay characters and keep the video background?
- 3) Why can't someone combine the ease of use of MultiScribe GS with the print quality of Printrix? I currently use AppleWorks to type in text, read the files into MultiScribe, fiddle until I get a nice format and layout, and then—for the more important documents—I transfer the text to Printrix for its great output quality. I hope the person working on a true AppleWorks for the GS will do more than just implement the

nice interface. Let's see fancy fonts and graphics capability.

**Kevin Martyn**  
46 Cresswell Drive  
Brampton, Ontario  
Canada L6Y 2T7

To me, AppleWorks is an Apple II peripheral that's as important to the machine as the monitor. I doubt Apple would have given the GS its fantastic ability to reproduce color if it had had only a monochrome monitor available. Why, then, does it tease us with a computer that has immense potential, but leaves us to work with a major component that won't take advantage of the power of the machine?

For the past three years, I've listened to other computer users tell me I should have MS-DOS. But they haven't been able to show me much their computers can do that my IIe with AppleWorks can't. And with Super Macro Works-equipped AppleWorks, I've surprised a couple of them with the power of the system.

But an 8-bit system has its limitations. True, the IIGS has a faster clock speed, but, as I understand it, the real speed gain lies in its 16-bit capability, especially if you consider speed to include more and easier-to-use functions within the program.

Not supporting the IIGS with such an important peripheral makes me question Apple's dedication to the entire II series. And, if it's so callous as to abandon its 500,000 or so AppleWorks users, why should we trust it not to do the same if we move over to the Mac? Apple is forcing me to take a second look at MS-DOS machines, and that saddens me.

**Gary Zumwalt**  
210 Keystone Drive  
Blue Springs, MO 64015

*Some of your wishes have been granted: Hitching a piano to your GS requires a Musical Instrument Digital Interface (MIDI) and a*

*MIDI keyboard. Check our May feature on music hardware and software ("Apple Serenade," p. 70) for more detailed information.*

*Video Title Shop from Datasoft (19808 Nordhoff Place, Chatsworth, CA 91311, 800-245-4525, in CA 800-562-1112, \$29.95) will take care of the video titles and credits you requested. As for special effects, perhaps Electronic Arts will transfer Deluxe Video from the Commodore Amiga to the IIGS.*

*As for AppleWorks (Claris Corporation, 440 Clyde Avenue, Mountain View, CA 94043, 415-962-8946, \$249), you can use the current version with TimeOut SuperFonts from Beagle Bros (6215 Ferris Square, Suite 100, San Diego, CA 92121, 800-345-1750, in CA 800-992-4022, \$69.95) and print with Printrix from Data Transforms (616 Washington, Denver, CO 80203, 303-832-1501, \$65).*

*For a true GS AppleWorks-type program, StyleWare comes to the rescue. See "GS Works" in this month's News Line, p. 20, for a preview of this new six-application package. In addition to the expected word processor (with spelling checker), database manager, and spreadsheet, GS Works includes communications software, a graphics program, and a desktop-publishing module. —eds.*

## Getting Around

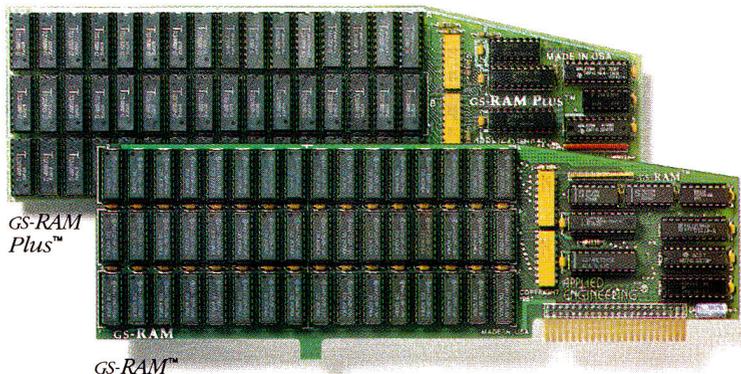
Robert M. Ryan's article "Getting Around in ProDOS" (February 1988, p. 58) mentions ProSel as a good choice for program-selector software. The author notes, however, that it doesn't support a mouse. While this may have been true at one time, ProSel does indeed support the mouse, and it's a fine program. I've been using it for only a few weeks and it's already invaluable to me. It's a fast, labor-saving program that's a joy to use.

**Gary Bungart**  
931 Adler Drive  
Deltona, FL 32738

*You're right; we apologize for the oversight. —eds.*

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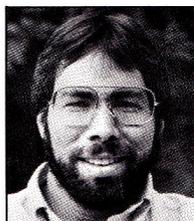
GS-RAM provides a built-in print buffer that allows you to continue working in AppleWorks while your printer is still processing text. You can even load Pinpoint or MacroWorks and your favorite spelling checker into RAM for instant response.

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We offer GS-RAM in two configurations so you can increase your memory 256K at a time (GS-RAM) or a megabyte at a time (GS-RAM Plus). Both are IIGs compatible and both come with our powerful enhancement software. GS-RAM can hold up to 1.5 MEG of 256K chips and GS-RAM Plus can hold up to 6 MEG using 1 MEG chips. And since both use standard RAM chips (not high-priced SIMM's), you'll find expanding your GS-RAM or GS-RAM Plus easy, convenient, and very economical. For further expansion, you can plug a 2 MEG "piggyback" card into the GS-RAM's expansion port for up to 3.5 MEG of total capacity. Or up to a whopping 8 MEG on GS-RAM Plus. If a GS-RAM owner outgrows 3.5 MEG, he can easily upgrade to GS-RAM Plus for a nominal charge.

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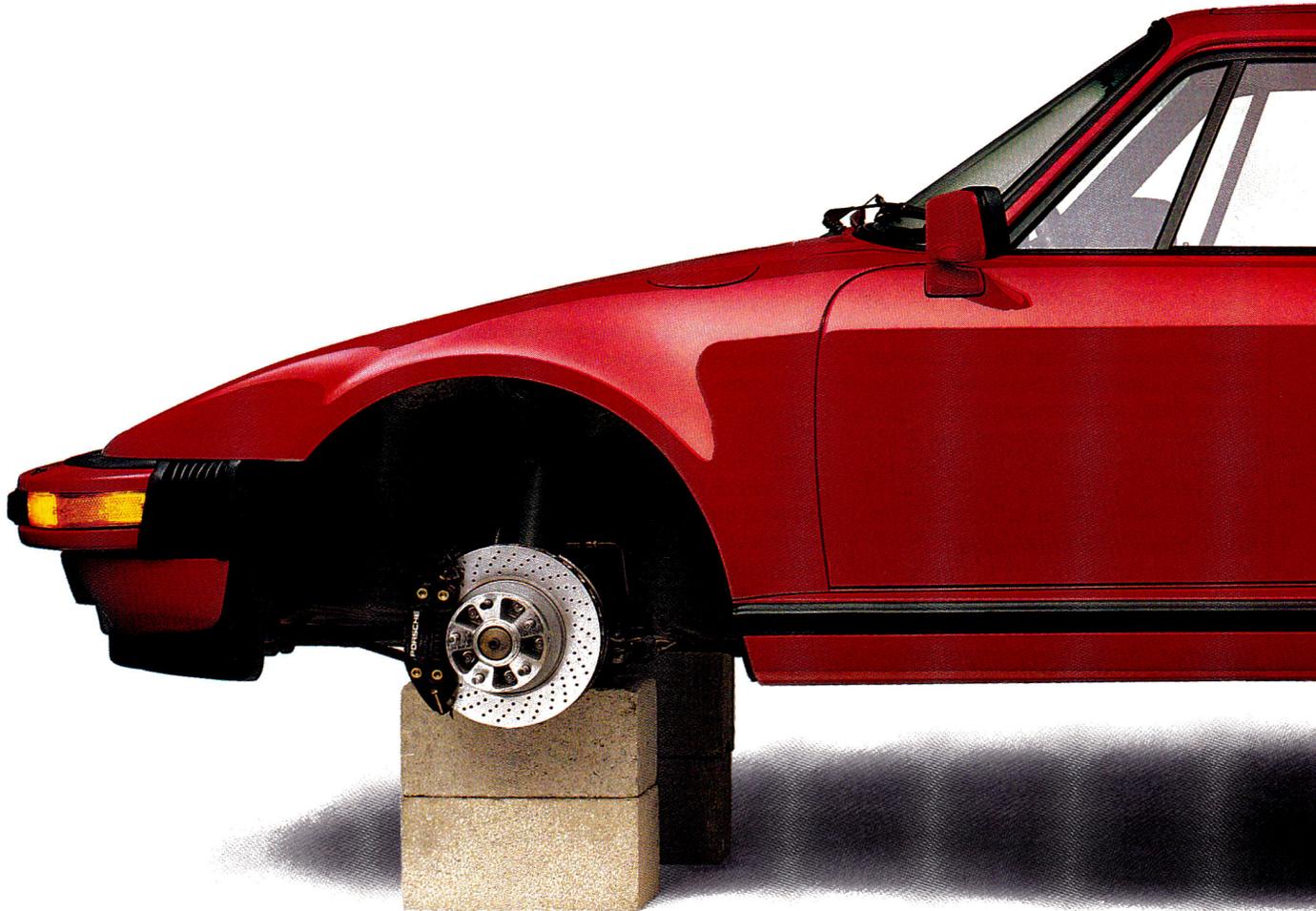
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# Some Apple II owners still



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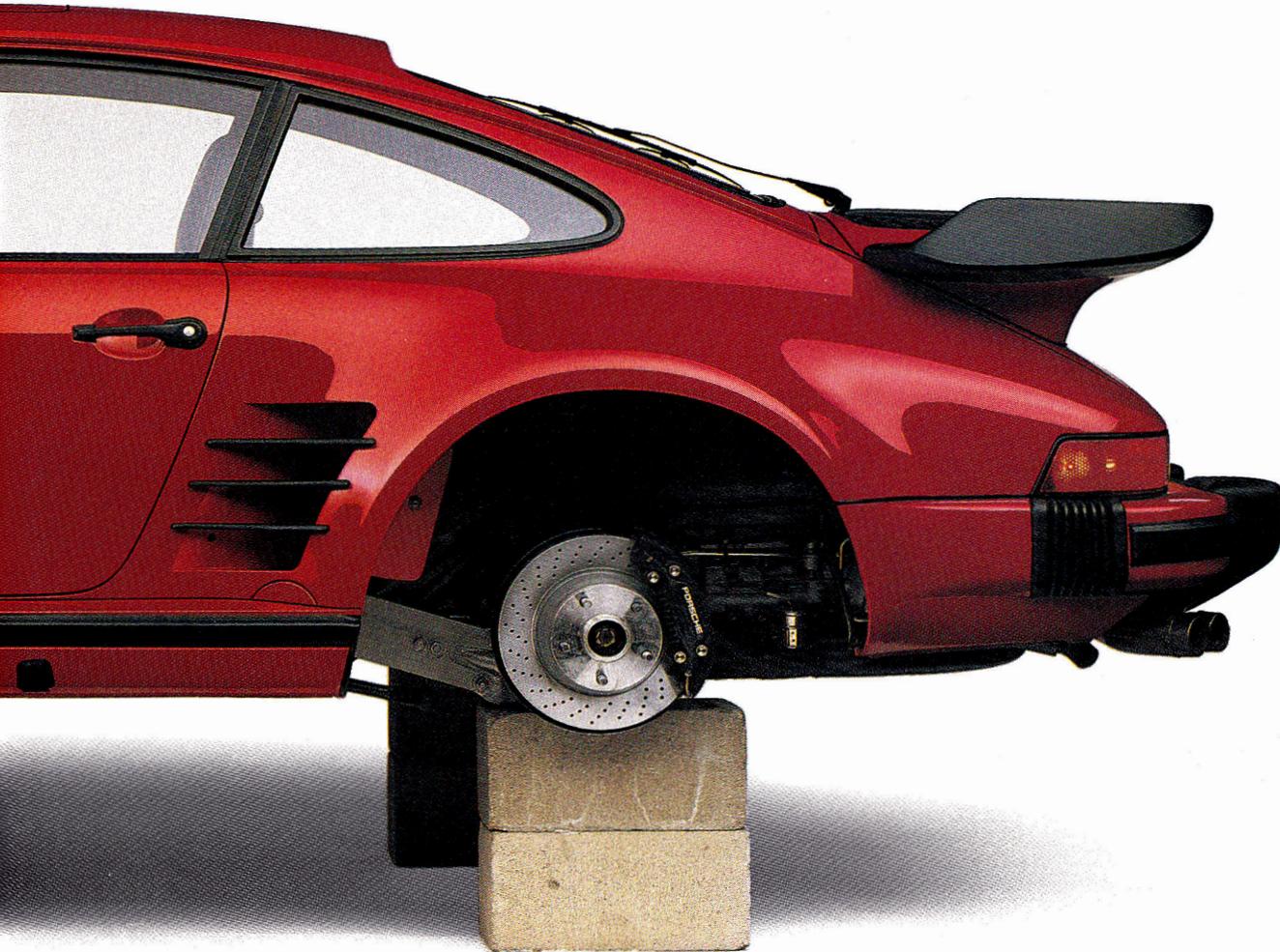
AppleWorks combines three of the most popular applications in one powerful, easy-to-use package: a sophisticated word processor for swiftly creating dynamic marketing plans or compelling letters home to mom. A spreadsheet for compiling

everything from next month's sales forecast to last month's household expenses—then changing the numbers in a flash as you ask questions like “what if I win the lottery tomorrow?” And finally, a database manager to store, sort and organize just about any kind of information you can think of.

Alone, each of these programs is a potent, practical tool.

But put them all together and your Apple II is suddenly traveling in a fast lane you didn't even know existed.

# don't have AppleWorks.



You can zip from your stock portfolio to your monthly budget with a few deft keystrokes. Cut sales projections from a spreadsheet and paste them into a business plan in a matter of seconds. Or use the mail merge function to speed addresses from the data base to a form letter. All without swapping disks or rebooting. Even the learning process is accelerated, since you only have to learn one set of commands.

If all this isn't enough, you can choose from dozens of add-on programs to do things like draw

graphs or check your spelling. Or use a RAM disk to take advantage of AppleWorks' extended memory support.

It's no wonder over 750,000 Apple II owners already work with AppleWorks (which is compatible with the entire Apple II family).

For more information and the location of a nearby Claris dealer, call 800-334-3535, ext. 150. If you've got an Apple II parked on your desk, we'll get it on the road to bigger and better things.

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## LETTERS

Your article on ProDOS program selectors (February 1988, p. 58) missed one of the best values in programs selectors, Squirt. Squirt is extremely simple to use, works well on all Apple II and Laser computers, and is offered as shareware by Steve Stephenson of Synesis Systems (P.O. Box 1308, Gilbert, AZ 85234). While not the most glamorous of the selectors, it's a real bargain.

**Michael Reese**  
 2130 Logan Street  
 Murphysboro, IL 62966

*We neglected to mention Bird's Better Bye from Beagle Bros (6215 Ferris Square, Suite 100, San Diego, CA 92121, 800-345-1750, in CA 800-992-4022, comes with any other Beagle Bros ProDOS program) and Starter/Quitter by FastFind (28503 Coveridge Drive, Rancho Palos Verdes, CA 90274, 213-544-2350, \$29) as well as Squirt. None of these three program selectors is fancy, but any of them will do the job economically. —eds.*

## CORRECTIONS

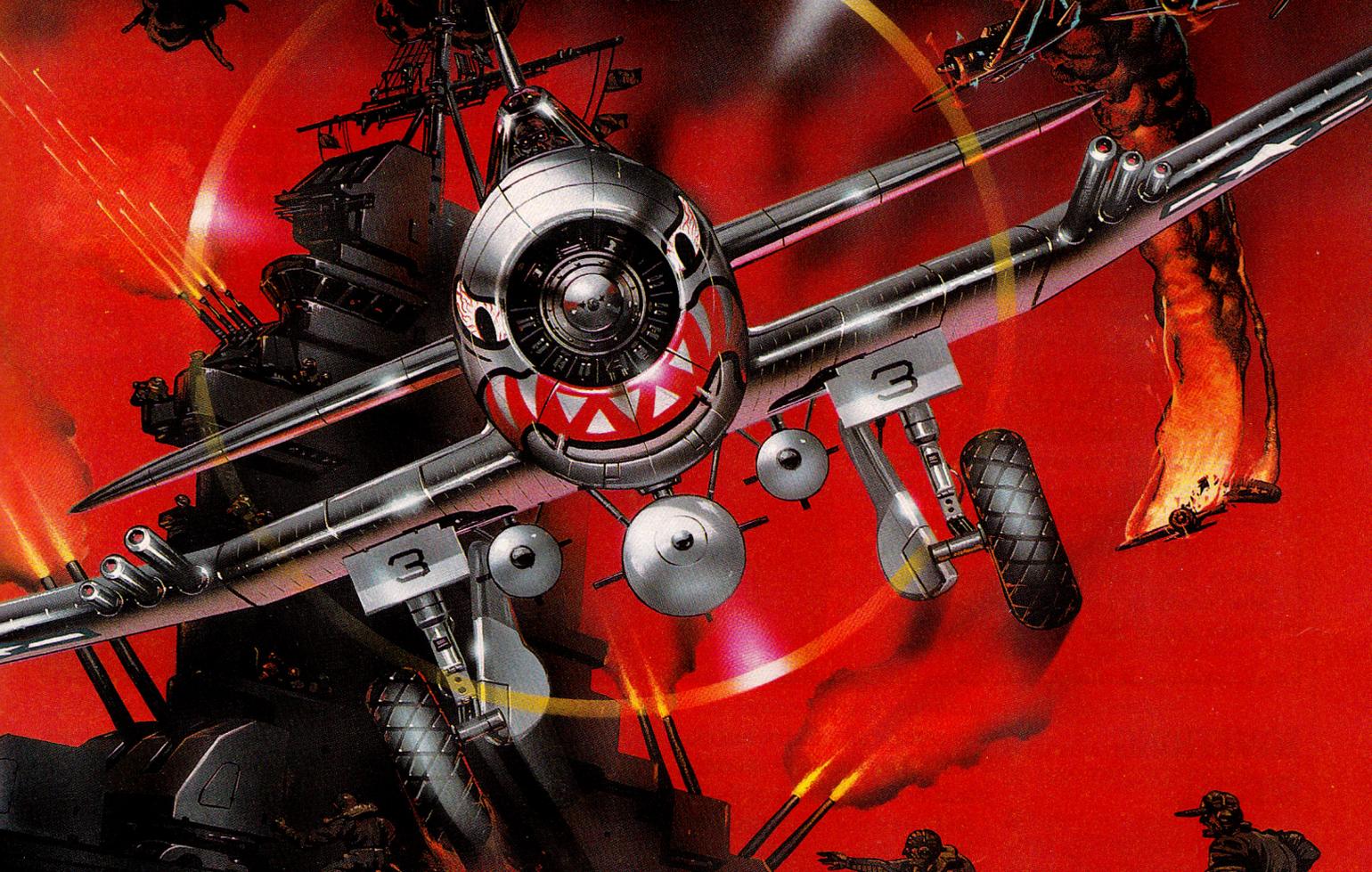
On p. 19 of our March 1988 issue we reported that Optimum Resource is based in Norwalk, Connecticut. The company's address is in fact Norfolk, Connecticut (06058).

In the Product Information box accompanying "Be Your Own Publisher" (February 1988, p. 52), Walt Disney Card and Party Shop is listed erroneously as a product of Bantam Publishing. The vendor is Walt Disney Educational Media, Burbank Center Building, Room 344, 3800 West Alameda Avenue, Burbank, CA 91505, (818) 569-7370.

*inCider welcomes readers' comments regarding articles, letters, or other topics of interest. We reserve the right to edit letters for clarity, style, and space. Please address your correspondence to Letters, inCider, Elm Street, Peterborough, NH 03458.*

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## SPOTLIGHT ON . . .

### TEACHERS HELPING TEACHERS

Jim Carlisle's conviction that "someone somewhere" was writing better AppleWorks templates pushed him into a new job. Carlisle was a teacher in upstate New York when he attended an educators' conference sponsored by Apple in 1986. He handed out some fliers there, suggesting that teachers share their AppleWorks files.

The response was so great that by the end of the year, Carlisle had to quit teaching—and the Teachers' Idea & Information Exchange was born.

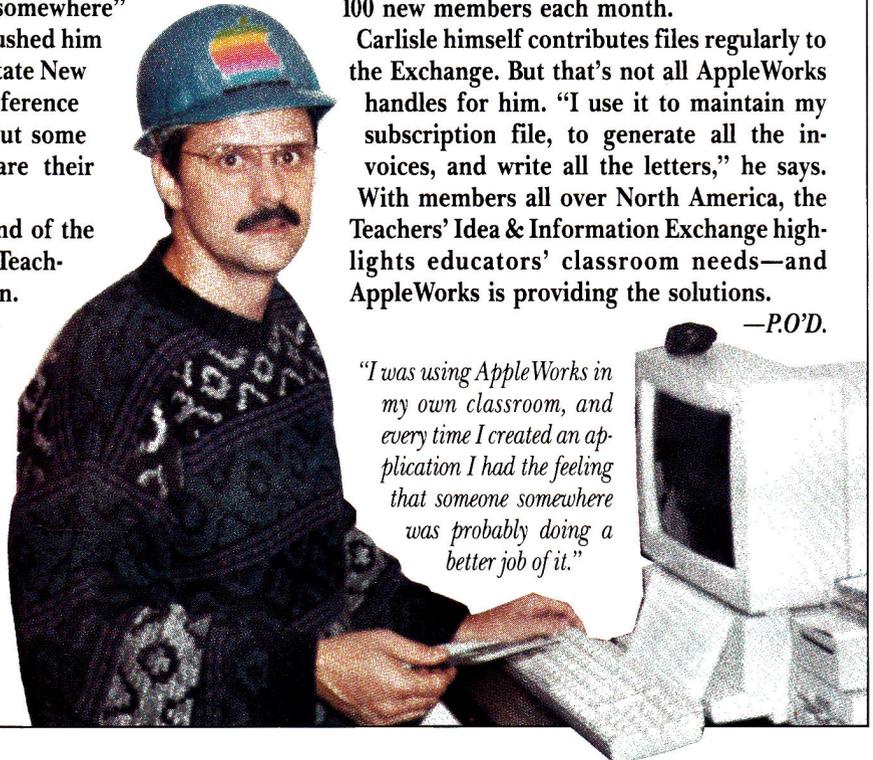
"As a teacher, I felt a real sense of isolation," he explains. "You're responsible for those kids. And you can't just leave, not even to go down the hall." The Exchange has changed that. "I've met so many teachers who are willing to share their ideas," he says. For the cost of a six-month subscription, Carlisle forwards each member one disk of templates per month. The organization, now based in Lincoln, Nebraska, includes almost 2000 educators and adds

100 new members each month.

Carlisle himself contributes files regularly to the Exchange. But that's not all AppleWorks handles for him. "I use it to maintain my subscription file, to generate all the invoices, and write all the letters," he says. With members all over North America, the Teachers' Idea & Information Exchange highlights educators' classroom needs—and AppleWorks is providing the solutions.

—P.O'D.

*"I was using AppleWorks in my own classroom, and every time I created an application I had the feeling that someone somewhere was probably doing a better job of it."*



## SOMETHING SPECIAL

"Apple Computer, Inc., and the AppleFest staff really 'caught the spirit' of the Massachusetts Special Olympics," says Roger Brown, executive director of the state-wide sporting competition for athletes with special needs.

Representatives of Cambridge Marketing (Lexington, MA), sponsors of AppleFest, used a customized version of the popular, powerful database manager DB Master, donated by Stone Edge Technologies (Maple Glen, PA), and seven Apple IIgs, donated by Apple,

to register all athletes and tabulate their scores in downhill and nordic skiing and figure- and speed-skating events at the Winter Games in February 1988. (At press time, Stone Edge was scheduled to be one of 150 companies exhibiting at AppleFest Boston, May 20-22, at the Hynes Convention Center.)

"We saved the Special Olympics a lot of time," says Roy Eirenhofer of Cambridge Marketing. "They were impressed—we came away with some good ideas about improving the way we tabulate and report scores. Special Olympics is really interested

in using the software for the Summer Games in Massachusetts—1800 athletes—and maybe nationally."

"All I can say," Eirenhofer adds, "is that I truly admire these athletes. They're truly special." —P.S.

## APPLE GOES DIGITAL

If the 800K capacity of a 3½-inch disk impresses you, Apple Computer's new APPLECD SC compact-disc read-only-memory (CD-ROM) drive will astound you: Its capacity is 550 megabytes, the equiva-

lent of almost 700 3½-inch disks. And the good news is that you can use the APPLECD SC with the Apple II Plus, IIe, and IIgs—any Apple II that supports Apple's small-computer-systems interface (SCSI) card, which manufacturers are already installing in hard-disk drives.

The APPLECD SC uses the "High Sierra" industry standard for CD-ROM files: That means you'll be able to access compact discs full of data "off the shelf." The APPLECD SC "plays" the same size compact disc you may associate with "digital audio." In fact, a CD audio-chip set and "remote

desk accessory" let you play an audio compact disc after your Apple has pulled data from a CD-ROM disc. The APPLECD SC even has two standard RCA connectors for external speakers or amplifiers, and a headphone jack so that you can listen quietly to Mozart while your Apple searches for the mammals of Montana.

More good news: The APPLECD SC will be sold by Apple dealers. Distribution of CD-ROM hardware has been a problem in the young industry; prospective buyers haven't been able to find in the same store the software they want and the hardware they need to use it. Apple dealers will have it all.

There's some bad news: CD-ROM is limited by the "read only" part of its acronym. You can't create your own CD-ROM disk or make copies of one. A CD-ROM disk is like an audio CD—small, packed full of data, and indestructible—but impossible to update or back up. The APPLECD SC isn't cheap, either; its suggested retail price is \$1199. Prices of CD-ROM software range from \$100 to several thousand dollars, which explains why CD-ROM technology has been limited to vertical markets such as library science until now.

But Eileen Hart, APPLECD SC product manager, says potential markets include primary and secondary education (K-12) in addition to colleges and universities. Hart admits that CD-ROM's "modest" access speed (500 milliseconds

from disk to computer for the APPLECD SC) limits its use on the AppleTalk local-area network, but says the APPLECD SC will find its place in desktop publishing and presentations. Apple emphasizes emerging markets, and Hart sees vertical markets such as government, engineering and science, health care, and the law in the APPLECD SC's future. —D.M.

## NETWORKS R US

With scores of programs ready to run, the AppleTalk network is generating a lot of

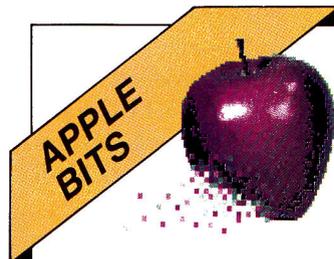
response within the third-party software community. The network itself won't ship until June, but at press time (early April) more than 120 packages are ready or will be soon. Approximately 20 more are under development.

At the New York City session of an eight-city tour by Apple's Education Connections program, software developers were out in force showing their "network aware" products. "Network aware" differs from "network compatible": Network-aware products are directly bootable from the Appleshare File Server

and are recognized by the system as multi-user programs.

Foremost among "networkable" products demonstrated at the Education Connections show was, of course, AppleWorks. Claris' network version of AppleWorks will sell for \$1616. Network versions of most third-party programs will retail for roughly the same price as a ten-program lab pack.

Stone Edge Technologies was there with DB Master V, the database to beat all databases. TML Systems showed an assortment of network-ready programming languages for the



■ What's the largest **user group** in the state of California? (Answer below.)

■ We hear Apple's next version of **ProDOS** for the IIGs will be really different. For one thing, it will let you name memory *devices*, such as hard-disk drives and RAM disks, instead of always referring to them by "slot and drive" or "ProDOS pathname."

■ Apple will introduce a new product at **AppleFest** in Boston in May. We hope it's something for the IIGs, and we hope it's fast.

■ Chip prices remain volatile. Shop around if you're buying anything that uses **DRAM** (dynamic random-access memory) chips, such as RAM-expansion boards.

■ The fastest-growing market for **entertainment software**? Europe: Infocom, Activision, SubLOGIC, and others are joining MicroProse in the old country.

■ The largest user group in the state of California is the **Boston Computer Society** (One Center Plaza, Boston, MA 02108). Now, who's buried in Grant's Tomb?

■ Electronic Arts (San Mateo, CA) thinks creative people can be trusted: It has stripped all the **copy protection** from DeluxePaint II and all its other creativity products. Got a protected version of DeluxePaint II and a hard-disk drive? EA

will replace it free with an unprotected copy **within 90 days** of purchase.

■ We hear that the more up to date the **ROMs** in your Apple **IIGs** are, the more likely your old Apple II software is to crash. Comments?

■ Dateline Los Angeles, March 10, 1988: **ZIP CHIP SHIPS**.

■ Sixty percent of the readers of *inCider's Begin Computing* issue last year who wanted to buy a computer planned to buy an **Apple IIGs**. Why? Home entertainment (45 percent) and home education (51 percent).

■ The Software Publishers Association (Washington, DC) will pay a \$50 reward to anyone who "provides prosecutable information about electronic bulletin boards that distribute **pirate software**." Anonymously, of course.

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SYNONYM DRILL	LINEAR EQU.	BASEBALL	MUSIC WRITER	TIC-TAC-TOE
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IIGs, including TML Pascal, TML BASIC, and the Speech Toolkit.

Scholastic has 12 products ready to go on the AppleTalk network, including an updated version of Bank Street Writer featuring an E-mail system that may be the easiest to use of its kind to date. Sunburst is offering an assortment of its popular educational programs, including some that work with the Muppet Learning Keys. Milliken and Sensible Software have also adapted some of their titles for AppleTalk.

Other network products shown in New York were II Write, a new word processor from Random House, and Tut's Typer, a typing program from Roger Wagner Publishing. Some of Pinpoint Publishing's productivity products will be networkable. MECC has a handful of network versions, and LogoWriter from LCSi will be network-aware.

Incidentally, all products mentioned above (and a few others) were demonstrated together in one large conference room, at the same time, on a number of Apple IIGs and IIEs—all running on one AppleTalk network. —L.L.

## GS WORKS

"AppleWorks made the Apple IIE, but it wasn't going to make the IIGs," says Kevin Harvey, president of StyleWare, the Houston-based company that developed the popular word processor MultiScribe.

In November 1986, StyleWare—a software com-

pany that's never strayed from the Apple II—started work on an integrated product that would do for the GS what AppleWorks did for the IIE and IIEc. A year and a half and ten man-hour years of programming later, comes GS Works, a six-application integrated program that should make Lotus, Microsoft, and Claris blush.

GS Works, which should be available after August 1, includes a word processor and spelling checker, database manager, spreadsheet, desktop-publishing module, painting and drawing program, and telecommunications software. StyleWare expects GS Works to work with a minimum of 768K. It will cost \$249, the same price as Claris' AppleWorks. "We want the GS to be known for its reasonably priced software," says Harvey. But at an average cost of less than \$42 per application, what kind of performance can you expect from GS Works? "We didn't cripple any of the programs," Harvey reports. "We feel each product is at the top of its individual category."

As the installed base of Apple IIGs grows to respectable numbers, you can expect other software developers to try their hands at integrated GS software, but StyleWare will be first. "We saw an opportunity to help grow the GS market," says Harvey. "We weren't worried about the installed base."

—D.M.

*We're always looking for news of the Apple world. If you're making news, send your press releases and photographs to News Line, inCider, Elm Street, Peterborough, NH 03458.*

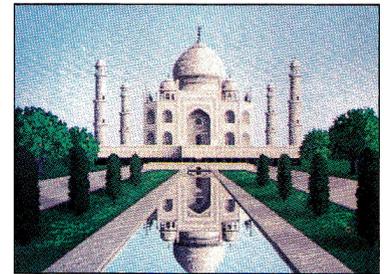
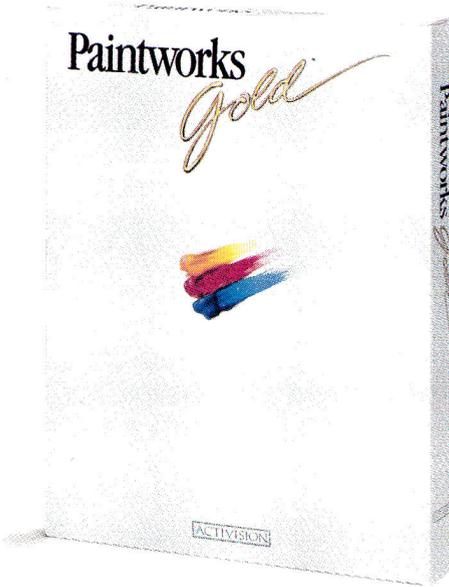
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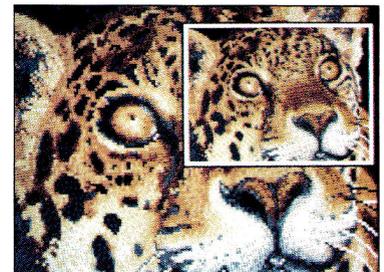
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DeluxePaint® II

Power Features	Paintworks Gold™	DeluxePaint® II
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Automatic 3-D	✓	✓
3rd screen to copy any image from a file	✓	
Automatic 256 color gradient palette	✓	
Rotate objects in 1° increments	✓	✓
2 canvases to paint on	✓	✓
Mask any area or image at any time	✓	
Mask colors	✓	✓
Slippy colors for lasso	✓	
Variable-zoom FatBits	✓	✓
16 Built-in patterns in the on-screen toolbox	✓	
4 Independent 16 color gradient palettes	✓	
Resize & bend objects	✓	✓
Distort objects	✓	
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Variable speed animation	✓	
Color cycling (simulated animation)	✓	✓
Smear, shade, & smooth colors	✓	✓
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<b>Total</b>	<b>21</b>	<b>9</b>



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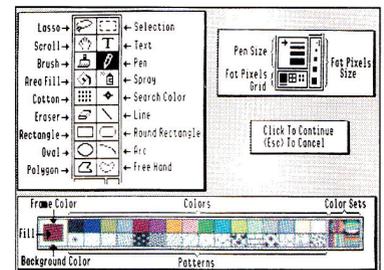
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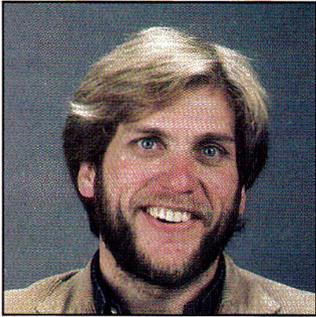
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## What to Do with Your Old II

by Paul Statt, Senior Editor



*“Much to Apple’s dismay, you can’t drown a IIe.”*

Apple IIe and IIc owners, you’re probably thinking about buying a IIGS. If you want high-fidelity sound and TV graphics, AppleWorks at double-time (soon with mouse and pull-down menus, too), the rich color of an analog RGB monitor, the mouse and all the other built-in ports, support for Apple’s MIDI card and a 15-voice Ensoniq synthesizer, if you want Cinemaware—if you want it all, you’ll have to give up your old II.

But don’t abandon it too quickly. After all, a complete IIGS system costs around \$2000. Place an ad in the paper for your worn-out machine, get \$600 for it, and you’re still paying \$1400 for the IIGS. I say skip the aggravation of advertising and keep the IIe.

The Apple IIe is cheap, its architecture is open, and it runs forever. Because it’s durable, it’s ideal for home control, weather stations, ham radio, electronic bulletin boards, or any other excuse for leaving a computer on for days at a time.

What can you do with *your* old IIe? You might write a short BASIC program that calculates pi to a record number of decimal places, leave your battered IIe to the next generation, and hope the power never fails. But seriously, folks, you can do some things with a dedicated Apple IIe that would be a waste of your GS’ time.

Home control, for instance, was science fiction 30 years ago. Today, many homes have computers, and most have televisions, videocassette recorders, and other electronic appliances, but only in a few homes does a computer start up the coffeepot in the morning. Your GS could do it, but most people who spend \$2000 on a computer believe—correctly—that they can turn the lights on themselves and save the computer for serious work. Or games. But if you’ve got an old IIe around the house, plug it in, put your appliances on timers, and forget about them.

Or you can turn your old IIe into a fascinating, educational toy: Invest in Lego Logo (review, p. 32) or Fischer Technik Computing Experimental. Or try cooking with it. Now,

between you and me, a recipe program is a silly idea, although there are some excellent ones, as disk cookbooks go, such as Pinpont’s Micro Cookbook. But do you keep *Joy of Cooking* in the study with your other books? A cookbook on disk starts making sense only if your computer’s in the kitchen.

Leave family messages on your very own electronic bulletin-board system (BBS). Having been sysop (system operator) of *inCider*’s BBS, I can’t imagine why any sane adult who wasn’t under court order would *want* his or her own BBS, but at any rate it certainly requires its own computer. Try Let’s Talk, Russ Systems’ low-cost, low-maintenance software for telecommunications. Or get onto AppleLink through Quantum Communications.

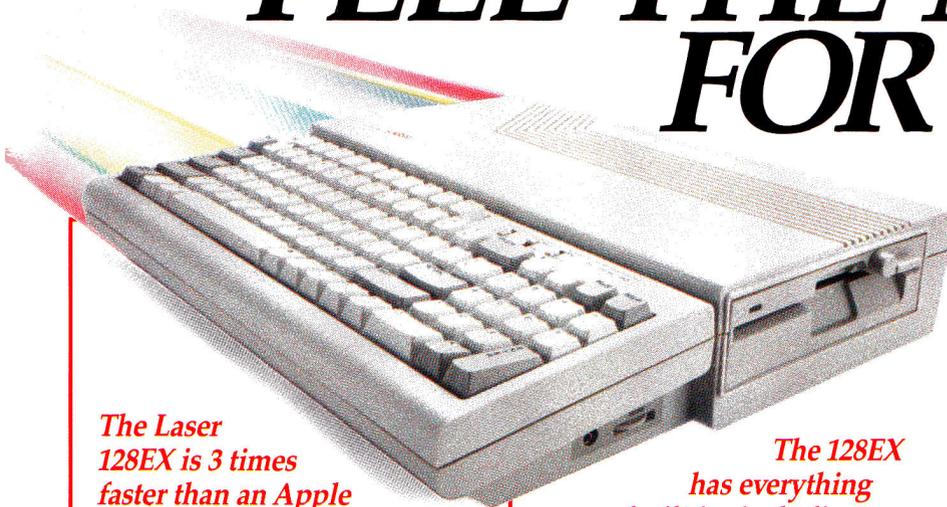
Dedicate the IIe in the study to CD-ROM. Apple’s \$1500 compact-disc read-only-memory disk drive also plays audio disks through your hi-fi. You can read CD-ROM disks with any Apple II or Mac computer, as long as it uses a small-computer systems interface, or SCSI port (which the IIc can’t). Why waste a Mac II, when all you want is to read the dictionary or encyclopedia? It doesn’t take much computer power to read a compact disc; put your old IIe to work, and your CD-ROM drive will always be instantly available.

If you’re going to own a second computer, the Apple II is a great choice—inexpensive, expandable, and reliable. On the other hand, a friend of mine has a 128K Macintosh at home. It’s become a kind of collector’s item: a dust collector’s.

*inCider*’s editorial offices were flooded last weekend. I got bored waiting for the insurance appraiser to show up, so I decided to take a chance, plug in my IIe—which had been standing in three inches of water overnight—and turn it on. From a safe distance. The power went on, the disk drive gnashed its ugly teeth, and AppleWorks appeared. Everything’s fine. Much to Steve Jobs’ and Apple’s dismay, you can’t drown a IIe. ■

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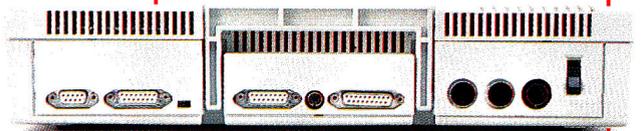


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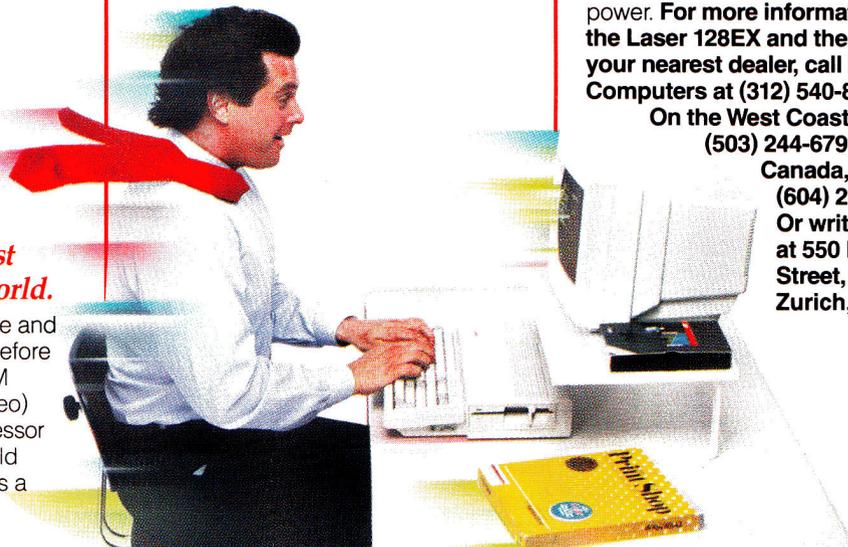
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**MAKING COMPUTERS AFFORDABLE**

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by William Kennedy, Ph.D.,  
Technical Editor

*Apple Clinic is a forum for discussing and answering your questions and concerns about Apple II hardware and software. Address your correspondence to Apple Clinic, inCider, 80 Elm Street, Peterborough, NH 03458. Because of the volume of letters, most won't appear in print, but expect a response from Dr. Kennedy via postcard.*

## Random Reseeding

How can I reseed Applesoft's random-number generator from assembly language? I know that making a JSR to RDKEY (\$FD0C) changes the random-number seeds at locations \$4E and \$4F. But that call requires that you press a key before the program returns control to your routine. Also, how can I use machine calls to duplicate the Applesoft A=RND(1)\*10 command?

**Donn Pelegrin**  
Green Bay, WI

*By their very nature, you must somehow collect random-number seeds from a random event. That's why they're linked to a key press: The time it takes you to press a key in response to some prompt varies considerably and is recorded in the locations you mentioned (\$4E and \$4F).*

*Alternatively, you could read the time of day to seed the random generator. Take a look at the accompanying Program listing for one such application. This program uses the ProDOS read-clock MLI routine to read the current minute and converts it to a number between zero and nine.*

*Applesoft uses memory locations \$C9-\$CD as the floating-point random number. It updates these locations whenever you invoke the BASIC RND(1) command. You can also access that same Applesoft routine from machine language with JSR \$EFAE.*

*You may also want to type in and use your own random-number generator, since those who*

*Program listing. Random-number seed from ProDOS clock.*

```
JSR  $BF00  ;MLI entry address
DFB  $82    ;Read clock command
DW   0000   ;No parameters
LDA  $BF92  ;Minutes
SEC
LOOP SBC  #$A ;Convert to a number
BCS  LOOP  ;between 0 and 9.
ADC  #$A
```

*Use result in accumulator to seed, and so on.*

*understand random-number theory consider the Applesoft generator lacking. In the past, I've used a generator published in MICRO magazine (Micro Inc., "A Better Random-Number Generator," by H. Cem Kaner and John R. Vokey, June 1984, pp. 26-35). Keep an eye on our Hints/Techniques column, too—we plan to publish a machine-language random-number-generator routine soon.*

## Stubborn Printer

My ImageWriter works fine when I use The Print Shop or a word processor. But I can't get it to print the programs I type in from your magazine. What am I doing wrong?

**Jamie Salazan**  
Chicago, IL

*Since other programs work fine with your printer, there probably isn't anything wrong with the system. Rather, I think you just need to let the printer know you want to print something.*

*From BASIC, that's easy. Next to the BASIC prompt (1) just type PR#1 (assuming your printer is "in" slot 1; otherwise, replace the 1 with your printer's slot number). Then everything you'd usually see on screen will be transferred to the ImageWriter. Next, type LIST, and your program will be printed.*

*When you're finished printing, type PR#0 to "print" on your screen again. How's that for a crash course in BASIC I/O (input/output) commands?*

## GS Neophytes

I'm looking for some simple answers to some equally simple questions about the Apple II GS I purchased recently. First, is there a good book on the GS designed for computer neophytes like myself?

Second, what does it mean when the GS screen "freezes" and the only way to get going again is to reboot the program? This has happened when I've run such diverse programs as Writer's Choice Elite, Paintworks Plus and the Apple System Utilities disk. I've talked to both users and technicians and everyone has a different theory. What's yours?

**Daniel Gahagan**  
Baltimore, MD

*I'm not aware of any really good texts that cover the IIGS in a way neophytes will find satisfying. Dozens delve into the GS' hardware and software, all basically written with the program developer, or certainly the advanced user, in mind.*

*It just so happens, however, inCider is preparing a special edition on the IIGS. Similar to last fall's Begin Computing, our special issue for people just getting started with an Apple IIe, IIc, or GS, the tentatively titled Begin GS will approach the IIGS from a neophyte's point of view. Be sure to watch for it!*

*As to your second question, would you believe eight-legged bugs in the IIGS Toolbox? I honestly can't say for sure why your software is "locking up." In particular, "transient" bugs like the one you describe are a pain to kill.*

# When the Bard's scared sober, trust a thief

... like me.



hen the Bard's Tale began, we lived a charmed life. Good ale. Good song. Good company.

Mangar came along, but we cut him to pieces before he could blink. Soon the world got bigger, and its problems got bigger. We wandered the wilderness for months to find the pieces of that infernal Destiny Wand. But once we reformed it, Lagoth Zanta was history.

Back then, being a thief was dull. Pick this lock. Disarm that trap. When things got hot, they'd tell me "Into the shadows, wimp." I should've lifted their gold and split long ago. But it's too late now.

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- 3) Mail check (U.S. \$) or VISA/MC #, cardholder name, and exp. date to Electronic Arts Direct Sales, P.O. Box 7530, San Mateo, CA 94403. Apple II version \$49.95, plus \$3 shipping/handling. CA residents add 6.5% sales tax. Allow 1-3 weeks for U.S. delivery.



ELECTRONIC ARTS®

The IIGS does have a more sophisticated and, hence, complicated collection of firmware that handles input from the keyboard, output to the screen, and so on. And that firmware has been extensively "patched" so that it's compatible with earlier Apple II versions. Although Apple makes every effort to "proof" that system, bugs almost inevitably occur and must be handled in later revisions. That's why new video and ROM chips (ROM 01) are available free of charge from IIGS dealers. Make sure you have that upgrade.

Another source of trouble is heat. Computers, like any other electric appliance, generate heat, and heat can affect the hardware, sometimes in insidious ways. Installing a fan inside your IIGS may help, particularly if the lockup seems to occur after you use the computer for an extended period of time. In fact, Apple has a power socket for a fan already installed on the IIGS motherboard in anticipation of heat problems.

Finally, one of your integrated-circuit chips (IC) may be loose in its socket—not loose enough to quit working altogether, but enough to be "flaky" when heated or when jarred while you type at the keyboard. Just open your IIGS (POWER OFF!) and, using your thumb, gently but firmly press each IC. (They're those bug-like black things on the motherboard.) If one or more are loose, you'll feel them "seat" and maybe your lock-up problems will go away. That's my theory, anyway.

## Using Memory Expansion

I have an Apple IIc in which I recently installed a 256K memory-expansion card. I was under the impression that the expansion card would increase my RAM (random-access memory) to a total of 384K, so that I could load my programs completely into memory and eliminate all that annoying disk access.

I found to my dismay that most of my programs wouldn't use that extra memory and that I had to use special software to configure others specifically. What's going on?

**John Fredericks  
Casper, WO**

Your confusion, John, isn't unique; memory is memory, right? Well, no, not any more than "parts is parts." Access to that well of memory

actually depends on which memory-expansion card you purchase and whether the applications you use contain the software required to "use" that extra memory or can be modified to do so.

Indeed, most software written for the 48K Apple II Plus or 64K IIe doesn't take advantage of the "auxiliary" 64K RAM available in the 128K IIe or IIc other than that used by 80-column text mode.

Why? The 6502/65C02 microprocessors used in the Apple II Plus, IIe, and IIc can address and therefore load and save data from only 64K of RAM—that's it! (Ten years ago 64K was thought to be excessive.) Accessing more RAM requires a hardware trick known as banking. Simply put, the system uses software-accessible hardware latches to switch the memory-address lines from one 64K section of RAM to another. It's virtually an "all or none" process: You can't "straddle" banks, although you can "read" data from one bank and "write" to another.

Most memory-expansion cards use similar, but sufficiently different, techniques for bank switching so that "generic" software that uses the extra memory is difficult to produce. That's why manufacturers of memory cards provide software utilities that "patch" existing applications, usually AppleWorks, to access the extra memory only on that manufacturer's product.

All is not lost, however. You can configure most memory-expansion RAM and even the auxiliary memory in a 128K Apple II as a RAM disk (iRAM) from ProDOS. You load and save data and programs to the RAM disk just as if it were a floppy disk, but at much, much faster speeds. You can transfer your data and programs stored on floppies to the RAM disk and enjoy the benefits of "virtual" memory.

There are just a couple drawbacks to the RAM disk, however. Each time you "cold-boot" your Apple (Open apple-Control-Reset is a "soft" boot), you must use the Apple Filer or a similar utility to format the RAM disk and copy your programs and data to it from floppies. Then you may have to alter your software to access the RAM disk instead of the floppy, although ProDOS will usually do that for you. Finally, at the end of a session, you must remember to copy any altered files back to floppies; once you turn your Apple off, your data are lost from RAM. (Some manufacturers offer "battery-backed" RAM that isn't volatile, so you wouldn't need to duplicate your data in each session.)

To overcome some of these drawbacks, Quality Computers offers a RAM-filer program called RamUp (1365 Berkshire, Grosse Pointe, MI 48230, 313-885-4270, \$39.95, reviewed January 1988, p. 31). It formats and loads your programs automatically to iRAM. ■

## Quickies

Skip the "Do you want 80-column catalog display (Y/N)?" prompt in version 6.4 of Copy II Plus by enabling the Copy II Plus sector editor and replacing every occurrence of the byte sequence 20 EE 23 with 20 66 23. The former sequence is found twice on track 4 in sectors 4 and F, bytes DB-DD and bytes 42-44, respectively.

**Garrett Sheehan  
Cato, NY**

Use these immediate commands to activate your disk drive from BASIC for cleaning: X = PEEK(49386) followed by X = PEEK(49385) to turn on drive 1. Type X = PEEK(49384) to turn it off. For drive 2, use 49387 as the first address PEEKed.

**Bill Coohon  
Ovid, MI**

Guide the first page exiting from your printer each day by hand. That first sheet has a tendency to curl downward and jam because it may have conformed to the platen after prolonged exposure to humidity.

**Luci Giglio  
Tampa, FL**

Use ByteWorks' ORCA/M GS macros to print the open-apple character on screen:

altn		; enable the alternate characters
putc	#9B	; turn on the mouse text
putc	#51	; print the open-apple
putc	#98	; enable mouse text
normch		; normal character set back on

**Tom DeLuca  
Hale, MI**

## Applesoft Program Typing Proofer

Tired of the frustrating hours you spend trying to find those typos you made when entering *inCider* freeware? Well, no more! Type in and SAVE to disk the ASOFT PROGRAM CODER shown in the accompanying **Program listing**. DO NOT type the bracketed numbers that appear at the end of each line; they're the proof values you'll use later.

Go ahead and RUN, then LIST the CODER program. The highlighted numbers at the end of each LISTed line should match the bracketed numbers in the listing. If so, BSAVE ASOFT.PROOFER,A\$300,L\$CF and, for later programming sessions, simply BRUN ASOFT.PROOFER. It'll operate under both DOS 3.3 and ProDOS. The proofer disconnects,

however, whenever you change the output vectors—with the PR#0 command, for example. To re-install the proofer, just CALL 768.

The proofer isn't perfect. It also counts spaces, so if your proof number is off by a multiple of 32, your program line has some extra spaces. That's not usually a problem, though.

You already know how to use the proofer. If the highlighted number you see at the end of a LISTed line matches the published one, you can be fairly well assured you typed it correctly. Otherwise, edit or retype the line until the numbers match.

The proofer won't kill all your Applesoft bugs, but it will take a lot of sweat out of typing *inCider* freeware. Guaranteed. □ —W.K.

### Program listing. Applesoft Program Proofer.

```

10 REM ASOFT PROOFER CODER [1571]
20 FOR I = 0 TO 207: READ N [1095]
30 POKE 768 + I,N: REM PROGRAM [1579]
40 NEXT I: REM HEX $300-$3CF [1224]
50 CALL 768: END : REM PROOFER INSTALLED! [2087]
100 DATA 162,60,160,3,173,0,191,201,76,208 [1916]
110 DATA 20,173,48,190,141,206,3,173,49,190 [1987]
120 DATA 141,207,3,142,48,190,140,49,190,208 [2076]
130 DATA 18,173,83,170,141,206,3,173,84,170 [1976]
140 DATA 141,207,3,142,83,170,140,84,170,169 [2096]
150 DATA 0,141,58,3,141,59,3,96,0,0 [1617]
160 DATA 201,141,240,3,76,202,3,134,70,132 [1994]
170 DATA 71,186,138,105,7,170,189,0,1,201 [1911]
180 DATA 214,208,7,189,255,0,201,229,240,30 [2114]
190 DATA 189,253,0,201,40,208,6,169,152,201 [2059]
200 DATA 141,208,17,189,255,0,201,13,240,86 [2072]
210 DATA 169,0,141,58,3,141,59,3,240,76 [1889]
220 DATA 173,58,3,13,59,3,240,25,32,87 [1916]
230 DATA 219,32,87,219,165,50,72,41,63,133 [2064]
240 DATA 50,174,58,3,173,59,3,32,36,237 [1990]
250 DATA 104,133,50,160,0,140,58,3,140,59 [2041]
260 DATA 3,177,155,200,17,155,240,28,200,177 [1959]
270 DATA 155,200,24,113,155,208,9,200,177,155 [1984]
280 DATA 240,14,24,109,58,3,141,58,3,144 [1778]
290 DATA 242,238,59,3,176,237,166,70,164,71 [1961]
300 DATA 169,141,141,98,3,76,240,253 [1617]

```

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## Stocks Plummet In Record Time!!! Could This Be The End Of Silverware?

In what appears to be a major setback for the electronic tool industry, the market closed down over one thousand points in combined issues of *Consolidated Fork*, *SpoonTech*, and *Knives International* yesterday. The adjustment was not entirely unexpected. Analysts, however, were taken aback by the severity of the downturn.

All three major utensil companies had been seeking to diversify in recent years, and all three had experienced major setbacks.

**Fork's Folly**  
*Consolidated Fork* had invested heavily in their Electric Fork, a battery powered device which stabbed steaks repeatedly until it actually hooked into the meat. It failed in market testing, when tests revealed that clumsy people who dropped the fork risk serious injury.

**Spoons Go South**  
*SpoonTech* also belled up after its heavy loss incurred after its diversification into the ladle field. Tim Galusha, Chief Operating Officer, commented, "We took our lumps for trying to deviate from our specialty. We built this company on teaspoons and tablespoons. It'll be a long time until we try this sort of trick again."

**Blades Bottom Out**  
*Knives International* was the third victim of yesterday's session, closing at an all-time low of one eighth cent per share, down from \$154 earlier in the day. Analysts attribute their failure to the consumer rejection of their new toy, *Switchblade Silverware*, designed to give people any utensil they desire at the flick of a switch.

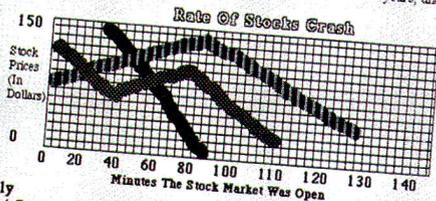
"It sure beats me," says Ross Boone, president and CEO of *Knives International*. "I thought we had a great product at a great price. I bet it was the computer traders that did us in. It certainly couldn't have been my fault."

**Experts Ponder Future**  
Experts began to wonder if this would lead to an end of utensils for the mass public. Said expert Max Gontz, "With these three companies probably out of business, I can't conceive of anyone else being able to pick up the slack. I had to guess, I'd say we will all soon be going back eating with our hands."

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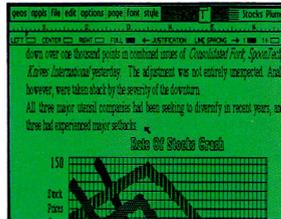
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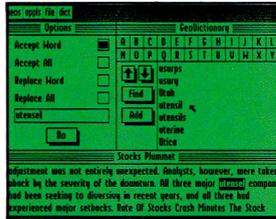
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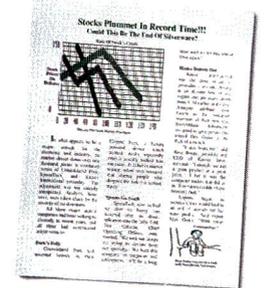
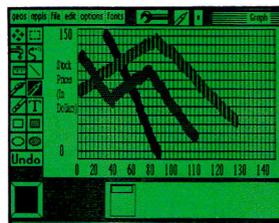


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# REVIEWS

TSI Educational Robotics Systems, Lego TC Logo; Calendar Crafter; MultiScribe 3.0; Touch 'n See, Touch 'n Match, Timekeeper; Interviews with History; Games Editors Play; Sherlock: The Riddle of the Crown Jewels; Strike Fleet; BlackJack Academy; Short Takes

## Building Bricks and Bytes

### TSI EDUCATIONAL ROBOTICS SYSTEMS

Technology Services Institute, 190 Mohegan Drive, West Hartford, CT 06117, (203) 232-0435

Hardware/software introduction to motors, robotics, and computer programming; 48K Apple II, II Plus, IIe, IIGS, Franklin Ace 1000

\$185 interface, software, Lego set

\$215 interface, light sensors, software,

Lego set

Rating: ■■■■■■

### LEGO TC LOGO

Lego Systems Inc., 555 Taylor Road, Enfield, CT 06082, (800) 243-4870, (203) 749-2291

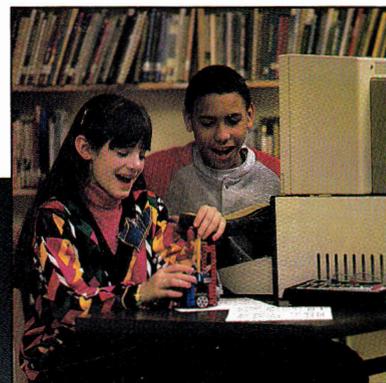
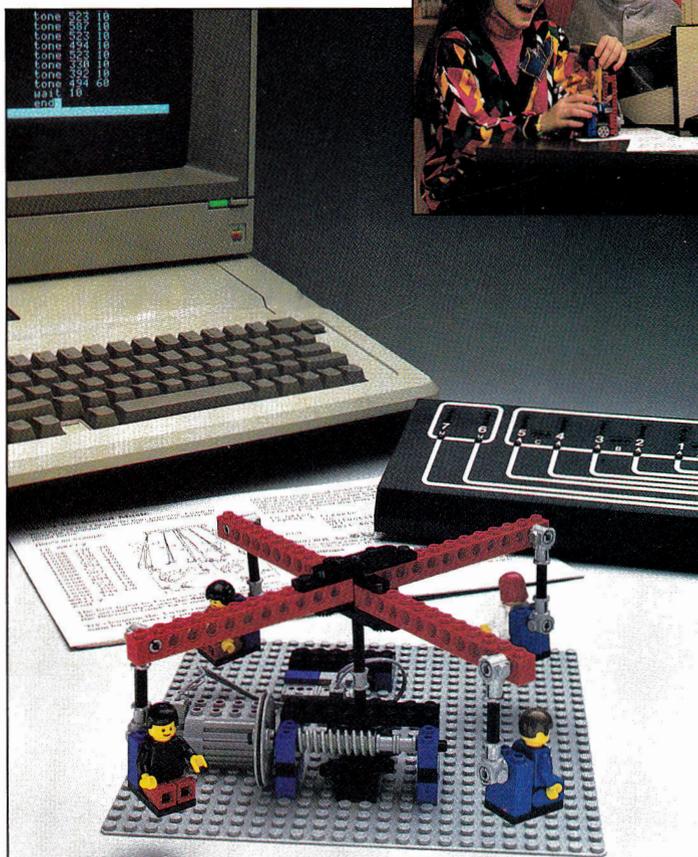
Lego components and Logo procedures to teach robotics, motors, optosensors, and touch sensors; 64K Apple IIe, IIGS \$485

Rating: ■■■■■■

The Technology Services Institute (TSI) and Lego Systems are selling more than simple construction bricks these days. Their products cover complex concepts such as gears and friction in ways no rudimentary physics textbook can. Combined with a computer-literacy curriculum, these high-tech playthings can reinforce students' programming skills and make children want to know more about robotics.

#### GET MOVING: TSI ROBOT

The TSI-1 package comes with an interface, a 5-volt DC power supply, sample programs, a well-written instruction manual, and the Lego Technic Universal



Buggy kit. Together these components provide for a simple yet powerful exploration of robotics and computer programming. The advanced model (TSI-2) contains all the above ingredients, plus three light sensors to experiment with motors and artificial intelligence.

The TSI interface can control a number of motorized constructions besides the Lego buggy kit, including those made with Capsela, Robotix, and Erector Set parts. A wide variety of supplementary Lego sets, spare parts, accessories, and activity books are readily available, and you can combine components from different sets to demonstrate increasingly complex motorized functions.

TSI is flexible enough to let you program in BASIC, Logo, or machine language. The software comes with Applesoft BASIC as well as DOS, ProDOS, and Logo procedures. (To use the sample Logo procedures, you must first boot a Logo system disk.) Even young children will be able to get the car to move forward, backward, left, or right.

Older students can write Applesoft BASIC or Logo programs by modifying the listings. Truly ambitious students can try their hands at writing completely new programs. If TSI ever revises the listings, however, it should consider adding more sample programs, a simple "edit" command, and a save feature to make TSI-1 or TSI-2 more versatile for individuals with minimal programming experience.

The TSI robotics systems show students that the computer programs they write can have practical applications. Instead of merely watching a two-dimen-

#### inCider's Ratings

Excellent—remarkable, a must buy	■■■■■
Very good—impressive and recommended	■■■■
Good—average, solid performance	■■■
Fair—flawed but adequate	■■
Poor—unacceptable or unusable	■



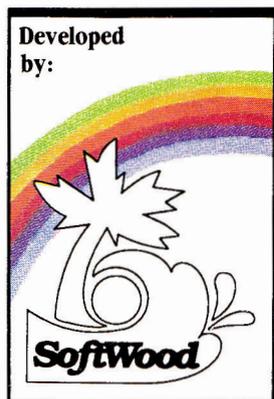
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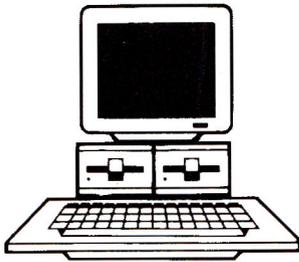
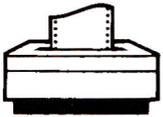
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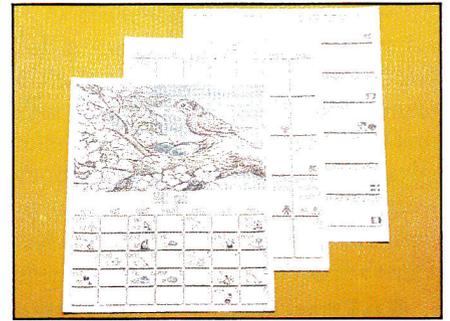
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ing wheel, or touch sensor makes models turn, stop, proceed, or move in reverse upon impact. Programming the sensors teaches students about measurement, calibration, distance, rate, and time.

Since Lego uses quality materials and precision engineering, the models achieve a high degree of accuracy. Compared with TSI's ability to issue commands in Logo, BASIC, and machine language, Lego's singular reliance on

Logo may seem a bit confining. Add to this the high cost of the kit and teachers might find themselves questioning whether the product is worth its price. Rest assured, Lego TC Logo provides so many inventive possibilities that it's without a doubt the instructional aide no computer lab should be without. ■

*Carol S. Holzberg, Ph.D.  
Shutesbury, MA*



## Mark That Date

### CALENDAR CRAFTER

MECC, 3490 Lexington Avenue North,  
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Calendar-making program; 768K Apple  
IIGs

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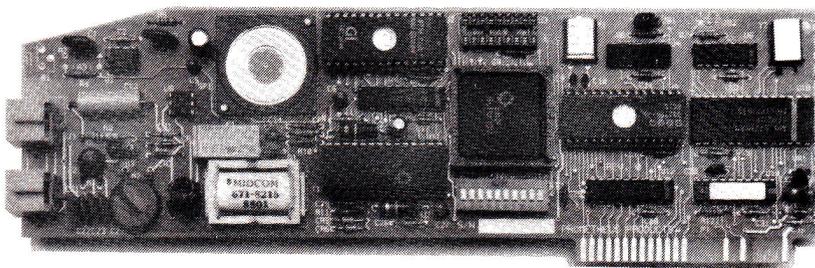
Rating: ■■■■

Countless computer widows and widowers will attest that the Apple IIGs with its 4096 colors is an insidious time bandit. Thanks to Calendar Crafter, MECC's entry into the GS software arena, GS owners now have a unique way to parcel their playtime and organize their more mundane business and social schedules—and still unleash their creative powers.

Calendar Crafter looks like authentic GS software. The program offers dozens of features within eight clearly named pull-down menus. The File menu—with its New, Open, Save As, Choose Printer (Calendar Crafter supports the ImageWriter and LaserWriter), and Quit options—is pretty standard. Like GS software before it, Calendar Crafter also has its share of dialog boxes, dimmed features, ellipses, and buttons. You need a mouse, but some of the program options have alternative keystroke commands.

Following another trend in GS software, Calendar Crafter is crippled on machines with less than 768K (1.2 megabytes is recommended). The program works on a 512K GS, but you won't be able to print any calendars. Unless your interest in calendars is purely academic,

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your GS will have to submit to Calendar Crafter's memory demands to be of much practical use.

### THE MAIN EVENT

The business of calendars is to help you get organized, and Calendar Crafter does just that. Engagements, deadlines, appointments, and special occasions are all "events" to Calendar Crafter. The program can track an event or print any calendar from the year 1 to the year 9999. Talk about playing "what if"!

You can mark events on your calendar and save them and your completed calendars on disk. To manage events better, you organize them into groups called "categories." Calendar Crafter comes with "canned events" categories, including U.S. holidays, Canadian holidays, historical events, and phases of the moon.

Creating your own categories of events is as easy as pulling down the Category menu, clicking on the "add category" option, and naming the category (golf dates, payday, birthdays). You can have as many as ten categories, each with up to 100 events, per calendar.

Click on "add event" from the Event menu and type in an event description. Then select the date or dates when the event occurs. Calendar Crafter can track

events that happen once a year or events that recur during the year.

You can choose one of Calendar Crafter's 125 colorful canned icons for a pictorial description of the event. Stock icons include the scales of justice, a report card, a birthday party, a choir, a wreath, a tooth, a bandaid, and symbols for just about every other conceivable event. If you don't find an icon you want, you can create your own from scratch with Calendar Crafter's simple but effective 16-color palette and drawing grid.

### A CALENDAR LIBRARY

While there's a practical limitation of about three events per day you'll see on your monthly calendar on screen, this restriction doesn't carry over into print.

All told, Calendar Crafter offers you six basic styles: one day, two days, one week, one month, two months, and one year per page. In addition, you can print calendars featuring one month per page with a picture above or below the calendar.

Calendar Crafter comes complete with a file containing a dozen beautiful paintings designed by MECC's Charolyn Kapplinger. Kapplinger used the standard palette in Baudville's 816/Paint, a GS program, to create these colorful renderings.

One of Calendar Crafter's best features is its ability to import artwork from 816/Paint, Paintworks Plus, or DeluxePaint II. You can also incorporate into your calendars any artwork you've digitized with ComputerEyes or Thunderscan and saved in the appropriate format. Although Kapplinger's paintings are appealing, the most memorable calendars you print may be the ones for which you've created the artwork yourself.

Besides painting your own pictures, you can dress up and customize your calendars in other ways. Calendar Crafter comes with nine fonts and various sizes ranging from 9- to 24-point. Calendar information can be left-, center-, or right-justified.

Other setup options include seven-day printed calendars or business days (Monday through Friday) only, with text, icons, year, pictures, or any combination. You can add rounded corners, boxes around the days, or shading for "unused" days.

You can print any range of dates by clicking on "from/to" date sliders. The software includes four possible paper sizes, condensed printing, and 50-percent reduction. As if these variations weren't enough, Calendar Crafter lets you create and print calendars in any of seven languages: Danish, English, French, German, Italian, Spanish, and Swedish.

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and circuit breaker.....	\$24
ThunderScan (imgwtr).....	\$190

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# In about the time it takes to read this headline, you can have the Finder up and



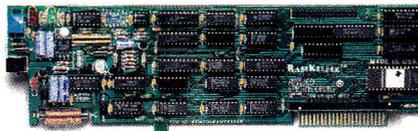
**N**ow your favorite program can be ready to go seconds after you flip your Apple IIcs on.

With Applied Engineering's RamKeeper™ card, your IIcs retains stored programs *and* data when you turn your computer off.

RamKeeper powers up to two memory cards simultaneously when your Apple IIcs is off. And battery backup keeps power to the boards even during power failures. Your programs and data are stored in a permanent, "electronic hard disk," always ready to run.

## **Superior power backup.**

Applied Engineering has the most experience in battery-



*RamKeeper lets you keep programs and data in permanent, "electronic hard disk" memory. Turn your Apple IIcs on and you're ready to work.*

backed memory for Apple computers. We were the first to offer battery-backed memory with our RamFactor™ / RamCharger™ combination. Now RamKeeper sets the standard for IIcs memory backup.

Our experience shows in the way we designed and built RamKeeper. We used sealed Gel/

Cell batteries — far more reliable than Ni-Cads in this application. Ni-Cads lose much of their capacity if they're not discharged periodically. Just when you need them most, Ni-Cads could run out of power.

Our Gel/Cell pack, which is included in our price, gives you up to six hours of total power failure backup. That's about 6 times longer than other systems.

RamKeeper uses a Switching Power Supply — the same technology used by Apple for the IIcs power supply. This design uses energy much more efficiently to keep your Apple running cooler.

Our sealed Gel/Cell battery

stays *outside* your computer case. With other systems, the batteries are installed under the IIGs power supply where a leak could ruin computer circuitry.

### Put two memory boards in the same slot.

You might have bought your IIGs with Apple's memory card. But now you want the features of Applied's GS-RAM™ card. RamKeeper efficiently resolves the dilemma.

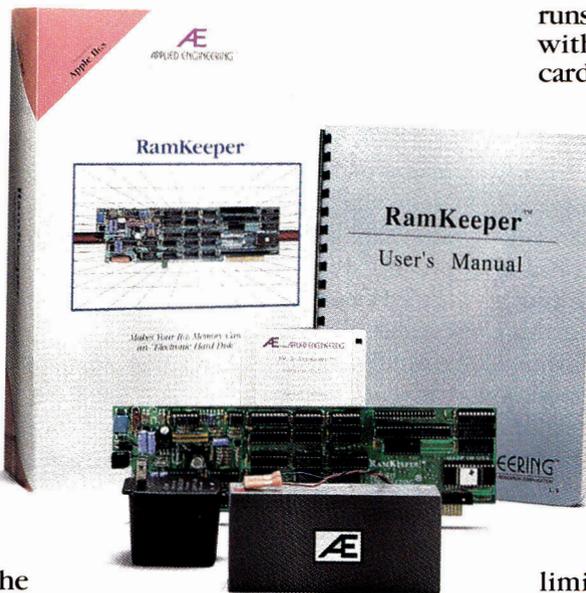
You can use RamKeeper with your current IIGs memory card *and* add another memory card — all in the same slot. Just attach your current memory card to one side of your new RamKeeper card, connect the second card to the other side and plug RamKeeper into the slot.

Of course RamKeeper works fine with just one memory card. But you can use two and still keep Slot 7 open with our optional Slot-Mover.

### Makes all of your memory usable memory.

RamKeeper can power up to 16 Meg of memory. Other systems are limited to only 8 Meg. In addition, RamKeeper lets you mix and match different types of cards. For example, you can have a GS-RAM Plus™ using 1 Meg RAM chips and an Apple card using 256K RAM chips. Other systems are limited in the combinations they allow.

RamKeeper firmware automatically configures for two cards



*It all comes with RamKeeper ... board, Gel/Cell battery pack, easy-to-understand instructions, and Applied's powerful AppleWorks Expander software.*

when the second card is installed. Other systems make you manually move jumpers.

RamKeeper configures memory linearly. Other systems don't, so they create memory gaps that can cause program crashes or keep some programs from using as much as half of your memory.

You easily decide how much memory you'll devote to ROM and to RAM from the IIGs Desk Accessories menu. You can configure Kilobytes or Megabytes of instant ROM storage for your favorite programs. And you can change ROM size any time without affecting stored files.

### Protected from program crashes.

RamKeeper controlling firmware is in an EPROM. A program crash can't take out the operating software. With other systems, operating software is installed in RAM from a floppy. If the program crashes, it can take the operating software with it; and reinstalling the disk-based operating software destroys data in memory.

### Verifies data security.

RamKeeper firmware uses optional startup checksums to verify that no data has been lost while power was off. The firmware also

runs ROM and RAM memory tests without disturbing data on the card.

### Free AppleWorks Enhancement software.

Applied's powerful AppleWorks Enhancement software is free with RamKeeper. It makes AppleWorks faster and far more powerful by eliminating AppleWorks internal memory limits. Word processor limits go from only 7,250 lines to 22,600 lines. Database limits go from 6,350 records to 22,600 records. The clipboard size

limit is increased from 255 to 2,042 lines. It even automatically segments large files so you can save them on multiple floppies. No other company expands your IIGs' AppleWorks internal limits.

In addition, the most powerful disk-caching program available comes with the RamKeeper. The cache significantly increases access time to the Apple 3.5 Drive. Most applications will run up to 7 times faster.

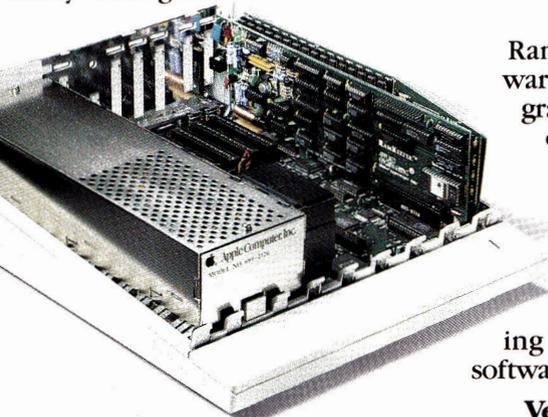
### The largest maker of Apple expansion boards.

Applied Engineering has sold more expansion boards than anyone else. And we've been in business 8 years, long enough to see the vast majority of our competitors come and go.

All of our products are crafted in the U.S.A. We back RamKeeper with a five year parts and labor warranty. And a 15-day, no questions asked, money back guarantee.

### Only \$189.00.

See your dealer. Or call 214-241-6060, 9 a.m. to 11 p.m. 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA, C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 outside U.S.A. Prices subject to change without notice.



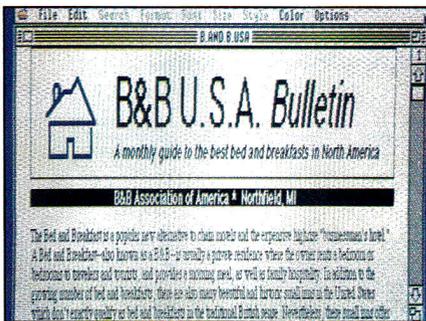
*RamKeeper is easy to install. Just plug it in. Even when you use two memory boards, you don't have jumpers. You can have two memory boards but use only one slot.*

**AE APPLIED ENGINEERING™**  
*The Apple enhancement experts.*  
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## GET ORGANIZED

The name Calendar Crafter says it all. According to Breault, the program's designer, Calendar Crafter was created in response to a need voiced by educators—hence, its seemingly self-limiting subtitle: “school utility program.” Breault concurs that Calendar Crafter appeals to a much broader audience because it provides GS owners with a way of making a pragmatic activity a pleasant—even creative—experience. ■

*Cynthia E. Field, Ph.D.  
Wakefield, RI*



## Writing with Style

### MULTISCRIBE 3.0

StyleWare, 5250 Gulfton, Suite 2E,  
Houston, TX 77081, (713) 668-1360  
Word processor with spelling checker;  
128K Apple IIe or IIc, ProDOS  
\$79.95  
Rating: ■■■■

Do you remember the days, not so long ago, when you had to proofread your documents visually—and wished your Apple could catch your typing and spelling mistakes? I certainly do.

Today integrated spelling-checker programs are standard fare for nearly all word processors. StyleWare joins the pack with version 3.0 of MultiScribe, the company's mouse-based, Mac-style word processor for the Apple IIc and enhanced IIe. (MultiScribe GS 3.0, a separate program, is also available, priced at \$99.95. See “Color My Words,” November 1987, p. 73, for an evaluation.) Since my first

review of MultiScribe 1.0 (“Write Like MacWrite,” November 1986, p. 30), StyleWare added a bundle of features to produce version 2.0, and has now included an on-line spelling checker in the current edition, 3.0.

MultiScribe's basic editing features (cut, copy, and paste) remain the same, as does the elegant user interface complete with pull-down menus, scroll bars, and dialog boxes. Further enhancements in file management, page formatting, print quality, and font selection make creating stylish documents a cinch. Unfortunately, the spelling checker doesn't shine as brightly as these other features—it's slow as molasses.

### FILE HANDLING

Accessing MultiScribe files is much easier now. From the File menu, you'll find all the commands you need to keep your disks in order (except a copy command). Best of all, a new feature called List Volumes lets you refer to multiple disk drives.

StyleWare has also added an entirely new delete command to the File menu. You no longer need to use an Apple utility program to remove files from a full disk.

A word of warning: The manual claims that names of special files, such as fonts, programs, and ProDOS system files, will appear dim and can't be selected or deleted. Quite the contrary: Most special files are not dim and you can indeed delete them.

You can save your document in one of three formats. MultiScribe file format retains all style and font embellishments. You can also use “straight” ASCII text-file format to export or import files to and from AppleWorks or other word processors. Finally, there's an “old” MultiScribe file format, which is compatible with version 1.0. (All files created with 2.0 or 3.0 are interchangeable, while 1.0 files are compatible with its successors.)

### THE PRINTED WORD

MultiScribe is somewhere between a text processor and a document processor, with much of the style found in desktop-

publishing programs. The addition of headers and footers is new to version 3.0. Although you can define only one header or footer for your entire document, each can contain text and pictures and can make use of all fonts, type styles, and sizes. You can also insert the page number, date, and time.

In addition, you can now format each page vertically by setting top and bottom margins (in inches), as well as the page length.

MultiScribe matches its double-hi-res, pixel-mapped display of fonts with crisp graphics printing on a wide variety of printers. StyleWare has added two modes of near-letter-quality (NLQ) output that produce truly remarkable clarity on a dot-matrix printer. While NLQ modes take considerably longer to print, their supreme quality is well worth the wait. While you cool your heels, use the new “Preview” option to see your finished document—complete with headers, footers, centered text, and all—on screen before printing.

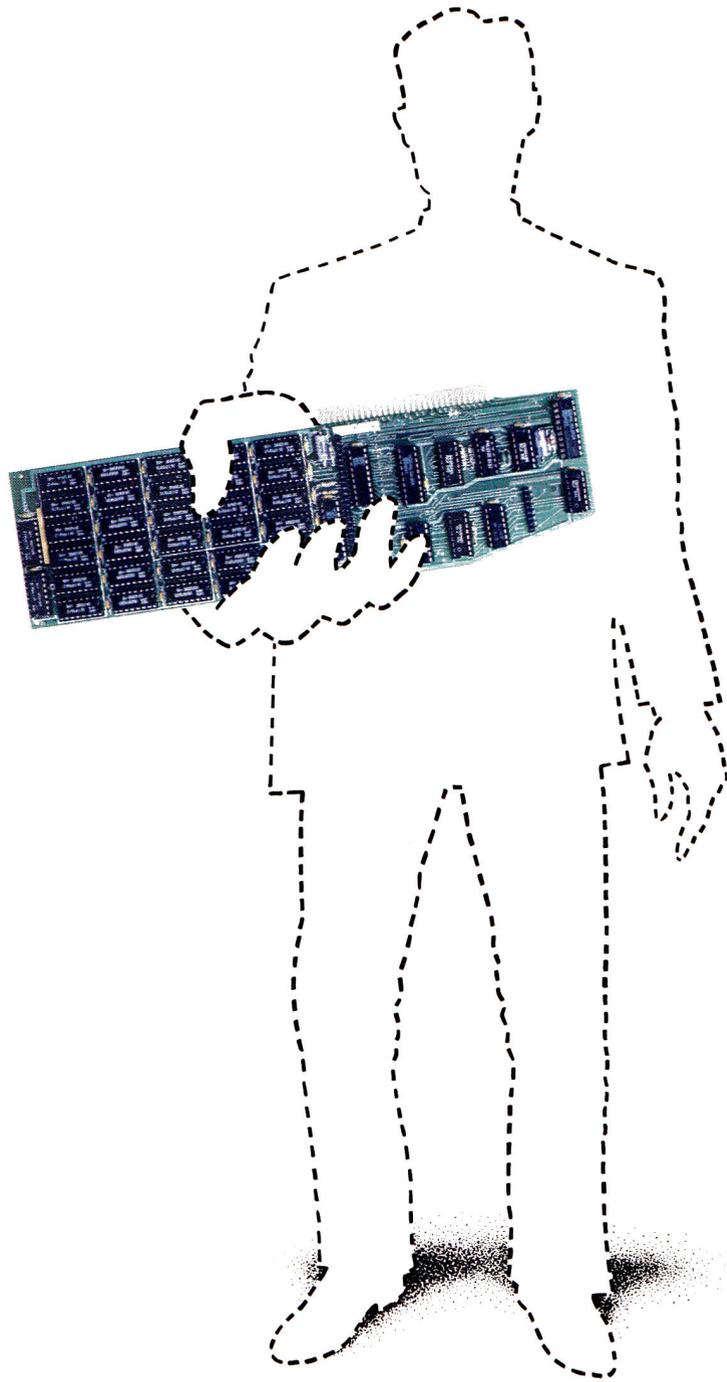
Another improvement in MultiScribe 3.0 is more flexibility in font selection. You no longer have to move fonts to the system disk. Instead a dialog box lets you specify the volume and directory in which your set of fonts resides. You're still limited to 16 fonts for each document, but you can store them on any disk.

### CHECKING YOUR Ps AND Qs

Creating your report or letter is only part of editing a well-polished document. If you're like me, you have confidence in your writing, but know you may have tripped over a few keys. So as a last step, you'll want to pass your work through version 3.0's new Spell Checker.

There are no two ways about it—the new Spell Checker is slow. I was disappointed with its performance and accuracy. As a comparison I tested a typical two-page, 4K document, pitting MultiScribe against my old standby word processor—Word Juggler and its Lexicheck spelling program. No contest.

Both products have 50,000-word dictionaries housed on a separate disk. Taking a total of 30 seconds, Word Juggler



## Don't buy a memory today from a company that may be a memory tomorrow.

Most of the companies making memory boards three years ago have gone out of business. That's why it pays to think not only about what you're buying, but whom you're buying from.

First, what happens if something should fail on the board? Or you just can't get it to work? If the company that sold it isn't there to support it, your board becomes a rather unattractive paperweight.

And your warranty — wastepaper.

What about compatibility? Software companies simply don't support expansion boards from defunct companies. And upgradability, when it comes time to add extra memory?

At Applied Engineering, our seven years of single-minded devotion to the Apple have paid off. Today we innovate and sell more Apple expansion boards than anyone else — including Apple

Computer. That's why you know we'll always be here to honor our five-year warranty. To offer you product upgrades. Or just to answer a question.

So stick with Applied Engineering. And let all your memories be good ones.

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*The Apple enhancement experts.*

P.O. Box 5100, Carrollton, TX 75011 • (214) 241-6060

made one pass through the test document. MultiScribe, however, scanned its dictionary five times for a total processing time of five minutes. To make matters worse, MultiScribe didn't recognize "winds" or "ceilings" as plural forms of common words.

On the plus side, MultiScribe's Spell Checker is easy to use. When it finds an unrecognized word you can ignore it, correct it, add it to the User Dictionary, scan the dictionary for similar words, or cancel the checking session.

In addition to the standard dictionary, you can create as many of your own custom dictionaries as you like. You can edit each one and access it directly from MultiScribe, although you can refer to only two dictionaries at any one time.

Be careful when you're finished, though. To exit the Edit Dictionary dialog box and indicate that you want to save

all changes, you have to press the Cancel button—a rather nonintuitive choice. While it does save your changes, it cancels the entire spell-checking session.

That's the only spot in the entire StyleWare product line where I've encountered an inconsistency in the user interface. Relatively speaking, it's a rather small blemish, but nevertheless it's indicative of the Spell Checker as a whole—good functionality surrounded by average usability and performance.

### IS THE PRICE RIGHT?

Collectively, the features added to version 2.0 were a significant improvement over 1.0 and well worth the upgrade price. If you own 2.0 and typing or spelling isn't your forte, 3.0 may also be worth the added investment. On the other hand, pulling the old *Funk and Wagnalls* dictionary off the shelf may prove faster

than using the Spell Checker most of the time.

If you're still using version 1.0 of MultiScribe, I recommend you upgrade to 3.0 (the only version now available) for \$19.95. Likewise, if you're considering a new purchase of MultiScribe, go for it. In spite of the spelling checker's bumps and grinds, the package's other features—the intuitive interface, superb graphics, a range of fonts—make MultiScribe a great deal at \$79.95. With MultiScribe, your document is limited only by your creativity. ■

*Jafar Nabkel*  
Fort Collins, CO

*Editors' note: Look for a review of MultiScribe GS 3.0 and DeskWorks, StyleWare's MultiScribe desk accessories for the IIGs, in an upcoming issue.*



## Reach Out and Touch

### TOUCH 'N SEE TOUCH 'N MATCH TIMEKEEPER

**Personal Touch Corporation**, 4320-290 Stevens Creek Boulevard, San Jose, CA 95129, (408) 246-8822

Early-education software; 64K Apple II, one disk drive, Touchwindow screen-input device  
\$39.95 (See), \$29.95 (Match), \$39.95 (Timekeeper)

Rating: ■■■

The childhood edict "Don't touch!" may soon become passé—at least in some

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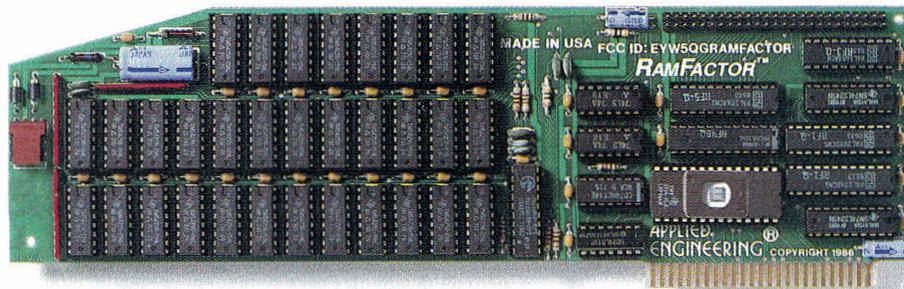
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# RamFactor™

## The Ultimate Slot 1-7 Memory Card



RamFactor is automatically recognized as additional workspace memory by AppleWorks 1.3 and 2.0. In addition, RamFactor's memory can be used for creating the ultimate in program speed—a lightning-fast RAMdisk for the Apple IIGs, IIe, II+, Franklin and Laser 128. A RAMdisk does not depend on the slow moving parts of a conventional floppy drive. RAMdisks eliminate wear and tear on your disk drive plus your programs run up to 20 times faster! When a program is in RAM, your computer won't have to search for it in the mechanical disk drive during program operation. With RamFactor, you can have up to 9 separate simultaneous RAMdisks—even in different operating systems! Now you can instantly switch from one program to another or even switch from AppleWorks to DOS 3.3 to CP/AM to Apple Pascal 1.3 to ProDOS.

### Apple Memory Expansion Card Compatible

RamFactor is 100% Apple Memory Expansion Card compatible. This means that software designed for Apple's card is automatically compatible with RamFactor. Thousands of software programs—including AppleWorks, Pinpoint, MacroWorks, MultiScribe, and Managing Your Money—can take advantage of the speed and performance RamFactor provides. But with Apple's card, you can have only one RAMdrive partition instead of the 9 simultaneous RAMdrives that RamFactor offers. And that's only part of the story...

### 2.0 AppleWorks Power

Other slot 1-7 cards can give AppleWorks a larger desktop, but that's the end of their story. RamFactor provides many more powerful functions. It's the only slot 1-7 card that increases AppleWorks 2.0 internal limits by increasing the maximum number of records in the database to 22,600, increasing the maximum number of lines permitted in the word processor to 22,600, and expanding the clipboard size to 2,250 lines maximum. RamFactor is the only standard slot card that will automatically load all of AppleWorks into RAM, dramatically increasing speed and

eliminating the time required to access the program disk. It will even display the time and date on the AppleWorks screen with a ProDOS clock. RamFactor will automatically segment large files so they can be saved on multiple 5¼" and 3½" floppies or a hard disk. All this performance is available for the Apple IIe, Laser 128, Franklin or 64K Apple II Plus when used with an 80 column card. No other standard slot card comes close to enhancing AppleWorks so much.

### The "Electronic Hard Disk"



RamCharger is an optional battery back-up device, (about the size of a disk drive), that can plug into a connector on RamFactor. With Ram-

Charger added to RamFactor, your program will appear almost instantaneously when you turn on your computer. RamCharger contains LED's that let you know RamFactor's reserve power status. Since RamCharger has its own built-in power supply, it can retain RamFactor's memory indefinitely. Plus, RamCharger's battery will continue backing up RamFactor's memory for up to 10 hours during power failures. An optional "Y" cable is also available that allows one RamCharger to power two fully expanded RamFactors.

### If 1 MEG Isn't Enough



A 4 MEG RamFactor Expander can be plugged into the expansion port on RamFactor for up to 5 MEG's total. RamFactor Expander uses standard 1 MEG chips and can be expanded in 1 MEG increments. With the addition of RamCharger, both RamFactor and the expander will provide up to 5 MEG's of lightning-fast battery backed storage.

### Features

- Compatible with Apple IIGs, IIe, II+, Franklin and Laser 128
- 256K to 1 MEG on main board with 256K

memory chips; expansion port supports up to 5 MEG with Expander option

- 100% Apple Memory Expansion Card compatible
- RamCharger battery back-up option available for permanent storage
- Reduces power strain to internal power supply with RamCharger option
- Fully socketed and user upgradeable
- Expands internal limits of AppleWorks 2.0
- Automatically recognized by ProDOS, DOS 3.3, Apple Pascal 1.3 and CP/AM
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"Y" cable	\$24

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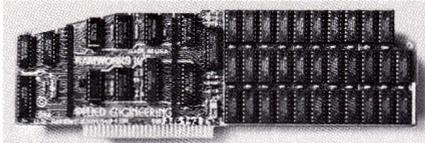


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RamWorks III

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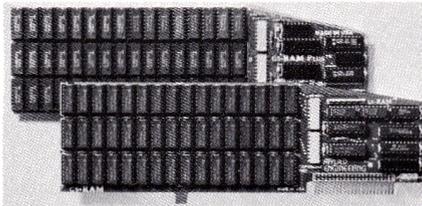
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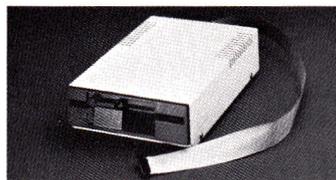
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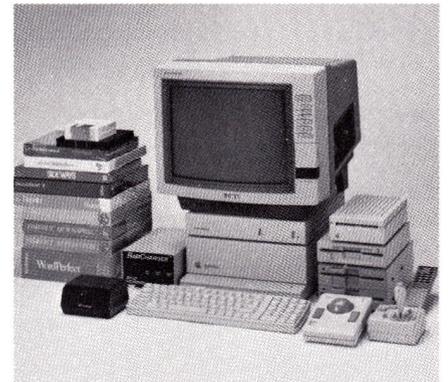
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# REVIEWS

homes and preschool computer centers—thanks to three early-education programs: Touch 'N See, Touch 'N Match, and Timekeeper from Personal Touch Corporation's Windoware series.

These unique programs save your preschooler or special-needs child from the frustration of dealing with Apple's QWERTY keyboard layout and confusing computer commands. Touch 'N See, Touch 'N Match, and Timekeeper were "developed, programmed, and tested" by the Sherwood Center for Exceptional Children in Kansas City, Missouri. These programs require Personal Touch Corporation's Touchwindow—a flat, see-through, electronic overlay that attaches to your monitor. Touchwindow is sensitive to the pressure of a finger or the soft-tipped stylus (a sort of inkless drawing pen) that comes with the device.

## TOUCH 'N SEE

If your children like the game *Concentration*, they'll love Touch 'N See. While they concentrate on making matches, they learn to recognize shapes, objects, upper-and lowercase letters, numbers, and words.

Touch 'N See teaches a half-dozen basic shapes: circle, square, cross, diamond, rectangle, and triangle. Objects are arranged in categories: Clothes, Outside, Kitchen, Animals, Body Parts, and Travel.

Children work against the program's electronic timer—which parents or teachers can set for 30, 45, or 60 seconds. Choose the "no time" option to turn off the timer, and the child can take as long as he or she needs to complete the six matches that constitute each game.

Touch 'N See with the Touchwindow provides a nearly ideal way for young children to master some of the prerequisites for first grade: recognizing numbers, letters, shapes, common objects, and their names. By eliminating the frustration some children experience using the keyboard, Personal Touch Corporation and the Sherwood Center have set the stage for an enriching, educational environment—right in your own home.

## TOUCH 'N MATCH

Touch 'N Match is a great follow-up to Touch 'N See. Three main activities challenge the child to match identical shapes or objects or to point to an object that belongs (or doesn't belong) in the same category as a sample object.

Touch 'N Match takes a positive approach to learning and seems infinitely patient. The program routinely ignores unacceptable responses and rewards correct ones with a musical tune and flashing graphics. You can configure each game for 10, 20, 30, 40, or 50 trials—the number of correct responses the child must make before completing the activity.

At the end of each game, a scorecard lists the number and percentage of "correct" responses and the number "missed." Nowhere will you find the word "wrong." A test mode lets parents or teachers ascertain each child's level of achievement.

## HANDS ON

Timekeeper teaches children how to tell time in four challenging activities. In the first, the child sets the hands of a clock to match a target time shown on a digital display. Move the hands by pressing, holding down, and letting up one of the two on-screen arrow keys.

The second activity asks the child to set the hands to match a time displayed in words at the bottom of the screen, such as "five after ten." As in the first activity, a digital clock—which can be turned off by the parent or teacher—shows the child the "current" time he or she has set on the clock face. When the child is confident the hands are in their correct positions, he or she presses the "done" box.

In the third game, Type in Time, the screen displays an analog clock showing a specific time. Boxes across the bottom of the screen display the numbers one through nine, zero, and the colon symbol. The child presses the numbers and the colon in the proper sequence to create a digital representation of the time shown. The child can use the keyboard here also.

Time Match Game, the fourth activity, shows an analog clock set to a particular time. At the bottom of the screen appear

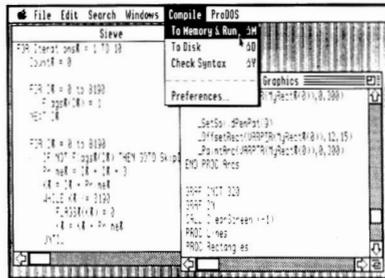
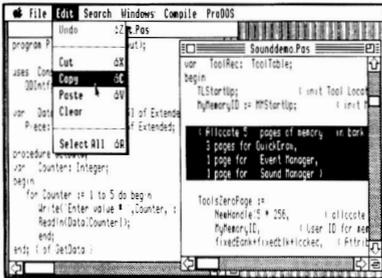
# TML BASIC



for the APPLE IIGs

Introducing TML BASIC, a modern, 16-bit BASIC stand-alone compiler designed specifically for the Apple IIGS. TML BASIC is an integrated, full-screen programming environment which uses the mouse, pull-down menus, windows and more. TML BASIC allows you to create stand-alone ProDOS16 applications, and provides complete access to every IIGS Toolbox routine, including Super Hi-Res Graphics, Menus, Dialogs, Windows, and Sound using TML BASIC's predefined libraries.

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## REVIEWS

four digital displays, only one of which matches that shown by the analog clock. The child works quickly, matching one digital display after another with the clocks that appear on screen. Time is up when a plunger moving steadily down the right side of the display reaches a graphics alarm clock and crushes it.

You can choose each lesson's time increment: 1 hour, 30 minutes, 15 minutes, five minutes, and one minute. A child who begins by learning to tell time in one-hour increments (10:00, 11:00, 3:00) can advance automatically to smaller increments (10:30, 11:05, 3:01). The program analyzes the child's progress and increases the difficulty level after the child has succeeded in a preset number of trials (ranging from one to 25).

If your preschooler or learning-disabled child—or even an ESL (English as a second language) student—isn't getting as much from the Apple II as you wish he or she were, it may be time to investigate the Touchwindow and these new Windoware programs. As a team, they'll have your children or students spending more time learning the basics—not just learning how to negotiate the Apple II keyboard. ■

Cynthia E. Field, Ph.D.  
 Wakefield, RI

## Back to the Past

## INTERVIEWS WITH HISTORY

**Educational Publishing Concepts Inc.,**  
 P.O. Box 715, St. Charles, IL 60174

Interactive history education; 64K

Apple II

\$99.95

Rating: ■■■■

Thomas Edison hounded his teachers with constant questions. Eleanor Roosevelt's guests ignored her at her own wedding once Uncle Teddy, the President, arrived. And Abe Lincoln got into politics because he thought it would be the quickest way to "get ahead."

Interviews with History piques students' interest with details from the lives of the famous—and talking to a person is far more interesting than reading a textbook.

Interviews with History tries to bring both events and people to life. Designed for students in fourth through eighth grade, it features cartoon representations of famous people who speak to you, answer your questions, and tell you what they think you need to know. They even make appropriate facial expressions.

The student plays reporter and is expected to steer the conversation in the direction of what he or she wants to know. The program is intended for classroom use; a list of questions for each interview is included and a test follows each interview. The emphasis, however, remains on learning: Answering a test question incorrectly sends the student back to the interview to ask the question again.

Appropriately enough, Interviews with History starts with a character who is more of a myth (and the hero of a famous rhyme) than a real person to most students. Find a fourth-grader who doesn't know who sailed the ocean blue in 1492! Nevertheless, the program offers students plenty of hints to help them guess Columbus' identity before he announces his name.

Columbus also explains how and why he made his famous voyage, which is something kids may never have thought about before: He saw it as an opportunity to convert heathens. He sailed with 83 men and boys in 85-foot-long boats after signing a contract that guaranteed him 10 percent of the treasures of the Orient he also hoped to find.

As the session progresses, you'll have the opportunity to interview the Puritan leader Anne Hutchinson, the Calvinist theologian Jonathan Edwards, George Washington, the infamous Southern politician John C. Calhoun, Abraham Lincoln, the reformer Frances Willard, the Indian leader Chief Joseph, Thomas Edison, Theodore Roosevelt, Eleanor Roosevelt, and Dr. Martin Luther King.

John Calhoun is one of the most interesting characters to interview—he traces the evolution of the South's doctrine of states' rights back to the Revolution, offering a new perspective on the issue. According to Calhoun, the same independence that made the colonists resent royal intervention caused the Southern states to resist what they considered similar meddling by the federal government. But then, he was admittedly prejudiced—States' Rights was his idea in the first place.

There's plenty to recommend about Interviews with History, particularly its unique approach to the subject matter and its ease of use, but there are a few problems. First, you'll do a fair bit of disk swapping. After each interview, you'll have to reinsert the master disk before continuing on to a second interview.

Remember, though, that this "problem" will be a boon to some users. Interviews with History demands only 64K and one disk drive. The trade-off is that Interviews needs regular access to its master disk because it doesn't hold that information in RAM.

I have a few minor complaints about the program's contents. I found it unrealistic to hear Teddy Roosevelt talk of his own presidency as the "Progressive Era," for example. But again, others may welcome it. Teachers, for example, will appreciate the program's reinforcement of the terms they teach.

I had fun with Interviews with History, and I'm well beyond the eighth grade—I even have a degree in history. Interviews with History will go a long way toward making the subject exciting for kids—and that's more than half the battle. ■

*Pat O'Dell*  
inCider staff

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# GAMES

## EDITORS PLAY

*Eric Grevstad plays . . .*



**Sherlock: The Riddle of the Crown Jewels**, Infocom Inc., 125 CambridgePark Drive, Cambridge, MA 02140, (617) 492-6000. \$39.95.

I keep swearing I've played my last interactive-fiction game, and Infocom keeps luring me back for another try.

This time, the top name in text adventures has started a new "Immortal Legends" series. The first game casts you as none other than Dr. Watson, helping a rather lazy Sherlock Holmes find the crown jewels stolen from the Tower of London. Could the villain be that archfiend Professor Moriarty? Is the Queen English?

For Holmes fans, the game starts out promisingly. You'll find nice, atmospheric writing, familiar props in 221B Baker Street, and intelligently witty allusions to old friends such as Inspector Lestrade. The mystery is pretty good, too, progressing from simple puzzles to baffling challenges. (First you must distract Holmes from his cocaine bottle.)

Since Holmes mostly tags along and comments on your lack of progress, you'll appreciate the clever and sarcastic on-line hints. Moriarty hides clues in bizarre places, and is something of a chemical genius. I thought of holding one clue, for instance, over a match or lamp flame to see invisible ink, but never thought the Professor's ink would respond only to one candle in one particular location.

Such nit-picking posers lessen the more general appeal of Sherlock Holmes and lend a creeping feeling that it's "just another impossible Infocom game." Still, *The Riddle of the Crown Jewels* is an above-average entry for fans of the genre, and author Bob Bates' skill with the Victorian setting and cast eases the frustration for casual players.

*Lafe Low plays . . .*



**Strike Fleet**, Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404, (415) 571-7171. \$29.95.

This is naval warfare in the 1990s. *Strike Fleet* is a frighteningly realistic simulation of task-force command in the missile age. You have control over some of the latest high-tech military hardware afloat. Unfortunately, so does your enemy. They can lock onto your position and fire a long-range Kingfish or SS-N-12 "Sandbox" missile at you before you even have them in sight.

If you've played PHM Pegasus (also from the crew at Lucasfilm Games and Electronic Arts), this will seem like Pegasus on a grand scale. The scenarios take you to the Persian Gulf to escort oil tankers, the Falkland Islands to take on Argentine forces, and the North Atlantic to grapple with the Soviet Navy.

Your command can be as simple or as complex as you dare—take charge of a single ship on patrol, steer a fleet of tankers and armed escorts through the battle zone of the Persian Gulf, or engage a convoy of Soviet warships, submarines, and cargo ships.

In the more difficult scenarios, you can "jump ship" and switch your viewpoint from the bridge of your flagship to any of the other vessels in your fleet, including reconnaissance helicopters you can launch from most of your ships. Things can get pretty hairy when you're at the helm of your flagship with a band of Iranian patrol boats approaching your convoy like a swarm of angry wasps. You've got to think fast to fire off enough harpoon missiles at each target before they get a chance to do the same to you.

Soviet submarines, Iranian gunboats, missiles that skim over the ocean at Mach two—it's like living the six o'clock news.

*Paul Statt plays . . .*



**BlackJack Academy**, MicroIllusions, 17408 Chatsworth Street, Granada Hills, CA 91344, (800) 522-2041. \$39.95.

Almost everybody understands blackjack—it's a card game you play against a dealer. The object of the game is to have a hand that totals 21, but not more. It's a simple game. Kids play it.

Those kids scare themselves silly when they arrive in Las Vegas or Atlantic City. Blackjack's a casino game, with funny rules and prohibitions, and funny moves like "doubling down" and "insurance." Kids lose money playing blackjack.

BlackJack Academy teaches blackjack. Total beginners could learn all they need to know with BlackJack Academy, and hardened gamblers can pick up some tips.

BlackJack Academy isn't so much a game as it is an endlessly patient dealer who isn't after your money. Dealers in Las Vegas are patient with you as you learn the game, but they also draw big paychecks for taking yours.

I played BlackJack Academy with three of my poker-playing buddies. It was reasonable fun—about the same as playing cards. BlackJack Academy plays a fair game; that is, its job of "random shuffling" really is random. And since this is a GS game, you hear the shuffling—a nice touch.

You can get help with every play. "Should I split?" "Should I buy insurance?" Type Open apple-O to answer any arcane question. I give high praise to MicroIllusions for following Apple's interface guidelines faithfully:

BlackJack Academy uses the Apple mouse-and-menus interface, but you can also execute functions you'll need often with open-apple commands. Praise, too, for letting us use our hard-disk drives.

It's almost unfair to praise BlackJack Academy as a game. I wish some authors of educational software would take a look at it: This, not color drill-and-practice that talks, is how computers teach. ■

## Short Takes . . .

**Cavern Cobra**, PBI Software, Inc., 1163 Triton Drive, Foster City, CA 94404, (415) 530-1726. \$49.95.



A fast-paced arcade-style helicopter simulation. Since it's a GS game, the graphics screens are great, but it's slow to load. Flying is awkward—you control your helicopter with the mouse, and your artillery with a combination of number keys and mouse clicks.

**Infiltrator II**, Mindscape, Inc., 3444 Dundee Road, Northbrook, IL 60062, (312) 480-7667. \$29.95.



Like most helicopter simulations, this one is complicated. Graphics screens are nice, especially since the game requires only 64K. In addition to flying, you get to run around on special "ground missions." Joystick required.

**Wings of Fury**, Broderbund Software, 17 Paul Drive, San Rafael, CA 94903, (415) 492-3200. \$34.95.



In this World War II flight simulation, you choose your rank, then fly the corresponding island bombing raid. Your final targets are the enemy ships—but in the meantime, watch out for enemy planes looking for a fight! Joystick required. (See Games Editors Play, April 1988, p. 43.)

**Border Zone**, Infocom, 125 Cambridge-Park Drive, Cambridge, MA 02140, (800) 262-6868. \$39.95.



Three short interactive stories about a spy trying to escape from behind the Iron Curtain. You can ask for hints if you get stuck, which is a big help for beginners. (See Games Editors Play, April 1988, p. 42.)

**Indoor Sports**, Mindscape, 3444 Dundee Road, Northbrook, IL 60062, (312) 480-7667. \$29.95.



This collection of Indoor Sports—bowling, darts, table tennis, and air hockey—is a good idea. But while it offers some fun moments, it could be a lot smoother in places. (For instance, you can't move from sport to sport without rebooting.)

**Hardball!**, Accolade Entertainment Software, 550 South Winchester Boulevard, Suite 200, San Jose, CA 95128, (408) 296-8400. \$34.95.



The measuring stick by which all baseball games are judged. It's not perfect (it'd be nice if you could select the location of your pitch without your opponent seeing it, for instance), but Hardball!'s the best baseball game we've seen on a II. (See "Baseball Fantasies," Mace on Games, April 1987, p. 105.)

**GBA Championship Basketball Two-on-Two**, Gamestar/Activision, 3885 Bohannon Drive, Menlo Park, CA 95025-1001, (415) 960-0410. \$44.95.



Takes great advantage of the GS' sound and graphics. The two-on-two approach, versatile practice sessions, and the ability to play an entire league schedule are particularly nice features. (See Games Editors Play, August 1987, p. 90.)

**Championship Baseball**, Gamestar/Activision, 3885 Bohannon Drive, Menlo Park, CA 95025-1001, (415) 960-0410. \$39.95.



Not as slick as Hardball!, but the ability to create your own team and compete in a 24-team league adds to the game's fun factor. (See "Games Editors Play," June 1987, p. 91.)

**RSVP**, Blue Lion Software, 90 Sherman Street, Cambridge, MA 02140, (800) 333-0199. \$39.95.



Choose your occupation, then find out whether your social skills are good enough to earn you promotions. You'll learn about foreign as well as domestic etiquette over the course of your career—everything from protocol to table manners to the rules of the road. (See Games Editors Play, February 1988, p. 37.) □

# Programs, Peripherals,

## Apple Compatible Computers

<b>Central Point Software</b>			
Laser 128 Computer	379.	Laser 128 2nd Disk Drive (5 1/4", 1/2 height)	89.
<i>The Laser 128 includes an Expansion Slot, RGB Video Output, Parallel Printer Port, and a 10 Key Numeric Keypad!</i>			
Laser 128EX Computer	479.	Laser 128 2-Slot Expansion Box	49.
<i>The Laser EX includes a Built-in RAM Expansion Board, Universal Disk Controller, Built-In Expansion Slot, and Ports for all Peripherals!</i>			
		Laser 128 Cables (Parallel, Serial, RGB or Modem)	16.
		Laser 128 Mouse	49.
		Amdck	
		Amdck Color 600 TRGB (Inc. Tilt & Swivel)	369.
		Taxam 118 Green	110.
		119 Amber	115.

## Backup Utilities & Boards

<b>Alpha Logic Locksmith 6.0</b>	36.	<b>FWB Software</b>	
<b>Central Point Software</b>		Disk Util II (IIgs)	52.
Copy II Plus (5.25" & 3.5" Bit Copy)	23.		

## Business Software

<b>Activision</b>		PinPoint Speller/Document Checker Combo	61.
Writer's Choice Elite (Not Protected IIgs)	62.	PinPoint Toolkit	43.
List Plus (Merges w/Writer's Choice IIgs)	68.	Key Player	30.
<b>Beagle Brothers</b> Timeout Graph	55.	Command.Com	43.
Timeout SuperFonts	45.	Graphics Edge	55.
Timeout QuickSpell	45.	Pinpoint IIe Upgrade Kit	19.
Timeout UltraMacros	37.	PinPoint Ram Enhancement	19.
Timeout SideSpread, FileMaster, or DeskTools	32.	PROFLER 3.0	74.
<b>BFI Systems</b>		<b>Random House</b>	
Accounting Systems for the IIe, IIc & IIgs		IIWrite (IIe, IIc, IIgs)	55.
BFI General Accounting ProDos	139.	IIFile (IIe, IIc, IIgs)	55.
BFI AR, AP or Inventory ProDos (ea.)	139.	<b>Roger Wagner Publishing</b>	
BFI Payroll ProDos	139.	Mouse Write (IIe, IIc, IIgs)	95.
<b>Broderbund</b> On Balance	41.	<b>Sensible Software</b>	
Bank Street Writer Plus	55.	Sensible Grammar ProDos (3.5" & 5.25")	61.
Claris Apple Works (IIe, IIc, IIgs)	Call.	Sensible Speller-Dos or ProDos w/3.5 & 5.25"	71.
<b>Dac Software</b> Dac-Easy Accounting	68.	<b>Sierra On-Line</b>	
<b>Datapak</b> Graphiewriter 2.0 (IIgs)	85.	Smart Money	55.
Notes 'N' Files (IIgs)	74.	<b>Simon &amp; Schuster</b>	
<b>DHA Systems Software</b> FastPak Mail	43.	Webster's Spelling Checker (ProDos)	41.
<b>Electronic Arts</b> DeluxeWrite	69.	<b>Software Publishing</b>	
Intuit Quicken	34.	All Programs for IIe with 128K or IIc	
<b>Manzanita BusinessWorks</b>		PFS: Workmates (File/Report/Plan/Write)	119.
System Manager (Required)	69.	PFS: Write w/Speller	69.
GL/AR, AP, or Inventory Control	139.	<b>Softsync</b> Personal Newsletter	39.
Payroll Module	139.	<b>Softwood</b> GS File	61.
<b>BusinessWorks Bundle (Sys. Manager, G/L, A/P, A/R, Inventory)</b>	299.	<b>StyleWare, Inc.</b>	
<b>MECA</b>		Multiscribe 3.0 w/Speller (128K IIe or IIc)	52.
Managing Your Money 3.0 (IIe, IIc, IIgs)	96.	Multiscribe GS 3.0 (IIgs)	65.
<b>Monogram</b>		DeskWorks	39.
Dollars and Sense (II+, IIe or IIc)	75.	Picture Manager or Desk Accessories	26.
<b>Nolo Press</b> Will Maker (Version 2.0)	36.	Multiscribe Fontpaks 1-8 (each)	15.
<b>Peachtree</b> Back To Basics		<b>Timeworks</b> Publish-It	69.
Accounting System: GL/AR/AP	135.	<b>VIP Software</b>	
<b>Pinpoint Publishing</b>		VIP Professional	152.
Pinpoint IIgs Starter Kit	92.	(Apple IIc or Enhanced IIe)	
Pinpoint	50.	VIP Professional (IIgs Version)	183.
PinPoint Spelling Checker	43.	<b>Word Perfect Corporation</b>	
PinPoint Document Checker	43.	WordPerfect V1.1 w/Speller (IIe & IIc)	89.
		WordPerfect (Apple IIgs)	89.

## Entertainment Software

<b>Access Software</b>		<b>Hayden Software</b> Sargon III	15.
World Class Leader Board Golf	27.	<b>Infocom</b>	
Famous Courses of the World	14.	Border Zone, Bureaucracy, Hollywood Hyjinx, Leather Goddesses Of Phobos, Moon Mist, Nord & Bert, Plundered Hearts, Stationfall, The Lurking Horror, or Zork I (each)	25.
<b>Accolade</b> Mean 18 (IIgs) or Hardball (IIgs)	27.	Hitchhiker's Guide to The Galaxy	15.
Famous Course Disk Vol. 2	12.	Sherlock	27.
Famous Course Disk Vol. 3 & 4	21.	Beyond Zork or Beyond Zork (IIgs)	34.
<b>Hard Ball</b> , Test Drive or Buble Ghost (IIgs)	21.	The Zork Trilogy	34.
<b>Activision</b>		<b>Micro League Sports</b>	
Aliens, The Last Ninja or Rampage	24.	Micro League Baseball	27.
Blackjack Academy	27.	General Manager/Owner Disk	21.
Firepower	18.	Team Disk 1987	14.
<b>GBA Championship Basketball (IIgs)</b>	31.	<b>Microprose</b>	
<b>GFL Championship Football or Championship Baseball</b>	27.	F-15 Strike Eagle or Silent Service	24.
<b>The Last Ninja (IIgs) or Hacker II (IIgs)</b>	27.	Silent Service (IIgs) or Pirates	27.
Might & Magic or Faery Tale	34.	<b>Mindscape</b>	
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Championship Lode Runner or Karateka	24.	The Tower Of Myrarglen (IIgs) or	
Ultima IV or Ultima V	41.	Alien Mind (IIgs)	34.
Autoduel	34.	Strategic Conquest II (IIgs) or	
<b>Bullseye</b> Ticket to London, Paris, Spain, or Washington D.C.	28.	Cavern Cobra (IIgs)	31.
<b>Data East</b> Karate Champ or Kung Fu Master	15.	Sea Strike (IIgs) or Monte Carlo (IIgs)	25.
Tag Team Wrestling or Commando	25.	<b>Sierra On-Line</b>	
<b>Datasoft</b> Goonies	14.	Space Quest or Space Quest (IIgs)	34.
Tomahawk	23.	Kings Quest I, II, or III (API or IIgs Ver.)	34.
<b>Electronic Arts</b>		Leisure Suit Larry (API or IIgs Ver.)	27.
Bards Tale (IIgs), Instant Music (IIgs), Music Construction Set (IIgs), Bards Tale II, Bards Tale III or Wasteland	37.	Texder (IIgs)	24.
It's Only Rock & Roll or Hot & Cool Jazz	23.	The Black Cauldron	27.
ChessMaster 2000, Legacy of the Ancients, Deathlord, Chuck Yeager Flight Sim., Scrabble, PHM Pegasus or World Tour Golf (IIgs)	30.	3-D Helicopter Simulation (IIgs)	34.
Strike Fleet or Marble Madness (IIe or IIgs)	26.	Mother Goose	21.
Dark Lord or Force 7	16.	Police Quest or Police Quest (IIgs)	34.
<b>EPYX</b> California Games (IIe or IIgs), Dive Bomber, Destroyer (IIe or IIgs), Omnicon Conspiracy, Sub Battle Simulator (IIe or IIgs), Street Sports: Baseball, Street Sports: Basketball, Winter Games (IIgs), Home Video Producer, Sporting News Baseball, Sticker Maker, Street Sport Soccer, The Games: Winter Edition or World Games (IIe or IIgs)	27.	<b>Simon &amp; Schuster</b>	
Rad Warrior	18.	Star Trek (Kobayashi Alternative)	21.
The Movie Monster Game	15.	Star Trek (The Promethean Prophecy)	27.
World's Greatest Baseball or Football Game	15.	<b>Sir-Tech</b> Wizardry	34.
Winter Games or Summer Games II	15.	Legacy of Lylymagyn	34.
<b>Firebird</b> Elite	17.	Return of Werdna	34.
Guild of Thieves	27.	<b>Spectrum</b> Holobyte Gato	25.
		Gato (IIgs)	12.
		Orbiter (IIgs), Wilderness or Dondra	31.
		<b>Strategic Simulations</b>	
		Colonial Conquest, Eternal Dagger or Sons of Liberty	27.
		Chickamunga	33.
		Carriers At War	37.
		War in the South Pacific	41.
		<b>Sublogic</b>	
		Flight Simulator II	39.
		Jet	16.
		Scenery Disks 1, 2, 3, 7, or II (ea)	31.

## Utilities & Languages

<b>Absoft</b>		<b>The Byte Works</b> ORCA/Pascal (IIgs)	72.
AC/Basic (16-bit BASIC Compiler for IIgs)	84.	ORCA/Pascal Desktop Debugger	80.
<b>Apple Computer</b> Apple Pascal V1.3	215.	ORCA/M 4.1	57.
<b>Beagle Brothers</b> Beagle Compiler	46.	ORCA/M GS	39.
Beagle G.P.L.E. or Super MacroWorks	31.	APW DeskTop	34.
D-Code, Extra K, Power Print or Triple Dump (each)	25.	<b>TML Systems</b> TML Basic for the GS	84.
<b>Borland</b> Turbo Pascal 3.0 (Req. CP/M)	48.	TML Pascal for the GS	84.
<b>Font Software</b> Sideways ProDOS & Dos 3.3	28.	TML Source Code Library for the GS	35.
<b>Roger Wagner</b> SoftSwitch (IIgs)	41.	TML Speech Toolkit	41.
Merlin 8/16 (IIe, IIc, IIgs)	79.	TML Pascal APW	84.
		<b>Zedcor</b> ZBasic 4.0	28.

## Accessories

<b>Apple Computer</b> Apple Mouse IIe	125.	Turbo Mouse (Reg. or ADB)	89.
Apple Mouse IIc	89.	<b>Kraft</b> Kraft Universal 3 Button Joystick (II+ IIe, IIc)	34.
<b>Applied Engineering</b>		<b>Koala Technologies</b>	
TimeMaster H.O.	85.	Koala Pad Plus w/Graphics Exhibitor	84.
IIc System Clock	55.	<b>MDideas</b>	
IBM Style Keyboard	120.	Converter (IIgs Switched Surge Suppressor w/Fan)	119.
<b>CH Products</b>		SuperSonic (Stereo Card for IIgs)	52.
Hayes Mach III Joystick (Beige or Platinum)	29.	SuperSonic Digitizer (IIgs)	67.
Hayes Mach III Joystick (Beige or Platinum)	38.	<b>Mouse Systems</b> A+ Mouse (IIc)	87.
Hayes Flight Stick	52.	A+ ADB Mouse (IIgs)	87.
Curtis Curtis Emerald	36.	<b>MousTrak</b>	
Curtis Ruby	54.	MousePad 7"x9" Size	8.
Curtis Ruby Plus	60.	MousePad 9"x11" Size	9.
Curtis Diamond Plus	40.	MousePad L/F (Low Friction)	9.
<b>DataDesk</b>		<b>Orange Micro</b>	
DataDesk ADB-101	149.	Juice Box (IIgs Switched Surge Suppressor w/Fan)	69.
Enhanced Keyboard (IIgs)		<b>SMT</b>	
<b>Kalmar</b>		No Slot Clock (II+ & IIe)	42.
Teakwood Rolltop Disk Case (Holds 50)	18.	<b>Street Electronics</b>	
<b>Kensington</b>		Echo IIb Speech Synthesizer (II+, IIe, IIgs)	109.
Mouse Pocket (Reg. or ADB)	8.	Crickle IIc	125.
Mouseway (Mousepad)	8.	<b>Ribbons Unlimited</b>	
Apple IIgs Dust Cover or Imagewriter I or II Cover	10.	Available colors: black, blue, brown, green, orange, purple, red, yellow, silver or gold	
Mouse Cleaning Kit w/Pocket Disk Drive Cleaning Kit (3.5" Drives Only)	17.	ImageWriter Ribbon-Black	4.
Apple Security System	34.	ImageWriter Ribbon-Black six pack	20.
Printer Muffler 80	38.	ImageWriter II 4 Color Ribbon	20.
Printer Muffler 132	51.	ImageWriter Rainbow Pk. (6 Colors)	20.
Printer Muffler Stand 80 or 132	51.	<b>Thunderware</b>	
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System Saver (Platinum or Beige)	69.		
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# Phenomenal Prices...

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Term Paper Writer	34.	<b>Great Wave</b>	
<b>Barron's</b>		Kidstime II (11gs)	24.
Computer SAT Revised Version	34.	SpaceLace	20.
<b>Baudville</b> Guitar Wizard	19.	<b>Harcourt, Brace, Jovanovich</b>	
Ted Bear Discovers...Rainy Day Games	19.	Computer SAT	27.
<b>Britannica</b>		<b>Learning Company</b>	
Algebra 1, 2, 3, or 4	25.	Reader Rabbit (11gs)	41.
Algebra 5 & 6	31.	Writer Rabbit (11gs), Think Quick (11gs)	34.
Designasaurus (11gs)	68.	or Rocky's Boots (11gs)	27.
<b>Broderbund</b> Geometry	55.	Magic Spells (11gs)	31.
Science Tool Kit Master Module	27.	Gertrude's Secrets (11gs)	34.
Science Tool Kit Module I, II or III	31.	Think Quick or Writer Rabbit	27.
Type!	34.	Reader Rabbit or Magic Spells	31.
Variable Feasts	27.	Gertrude's Puzzles or Secrets	27.
Where in the World is Carmen Sandiego?	31.	Math Rabbit	34.
Where in the USA is Carmen Sandiego?	31.	Robot Odyssey I or Rocky's Boots	48.
Where in Europe is Carmen Sandiego?	25.	<b>Mindscape</b> Crossword Magic	
<b>Compu-Teach</b>		Perfect Score SAT	31.
Once Upon A Time	25.	<b>PinPoint</b>	
Stepping Stones Level I	25.	Micro Cookbook (11e or 11c)	37.
Stepping Stones Level II	25.	Bon Appetit	37.
See the U.S.A.	37.	<b>Simon &amp; Schuster</b>	
<b>Davidson &amp; Associates</b>		Speed Reader Tutor IV	27.
Apple II and 11gs Versions Available:		Speed Reader Tutor IV (11gs)	34.
Alge-Blaster, Classmate or Math Blaster Plus	31.	Typing Tutor IV (11e, 11c, or 11gs)	26.
Grammar Gremlins or Read 'N' Roll	31.	<b>Spinnaker</b> Kindercomp Gold	
Homeworker	55.	Homework Helpers Writing or Math (11e or 11gs Ver.)	34.
Speed Reader II	43.	Typing Made Easy	34.
Spell-It or Word Attack!	31.	Facemaker: Golden Edition	27.
<b>Designware</b>		Kidwriter	27.
Grammar Examiner	25.	<b>Terrapin</b> Enhanced Terrapin Logo V3.0	69.
Body Transparent	25.	<b>Weekly Reader</b>	
States & Traits	25.	Stickybear Series: Sticky Bear ABC, Car Builder, Basic, Drawing, Math I, Math II, Math Word Problems, Numbers, Opposites, Parts of Speech, Printer, Reading, Reading Comprehension, Shapes, Spellgrabber, Typing, Townbuilder, Vocabulary Development, or Writer (each)	25.

## Modems

<b>Anchor Automation</b>		Practical Modem 2400 SA	199.
Signalman Lightning 2400 1200E	299.	<b>Prometheus</b> Pro Modem 1200 (External)	239.
2400E	159.	Pro Modem 1200G (Non Expandable)	139.
<b>Applied Engineering</b>		Pro Modem 2400 (External)	309.
DataLink Modem (300/1200 Baud Internal Modem 11e, 11c, 11gs)	175.	Pro Modem 2400G (Non Expandable)	179.
<b>Hayes</b>		Pro Modem 1200A (Single Card)	169.
Hayes Micromodem 11e (Internal)	165.	Pro Modem 300c	89.
Hayes Smartmodem 1200A (Internal)	265.	Communications Buffer (2K Exp. to 512K)	105.
Hayes 300 Baud Smartmodem 11e w/Smartcom I	187.	<b>Supra Corporation</b>	
Hayes 1200 Baud Smartmodem	299.	Supra Modem 2400 (Hayes Compatible)	149.
Hayes 2400 Baud Smartmodem	449.	<b>U.S. Robotics</b>	
<b>Practical Peripherals</b>		U.S. Robotics Sportster 1200	119.
Practical Modem 1200 SA	129.	U.S. Robotics Courier 1200	199.
		U.S. Robotics Courier 2400	319.
		U.S. Robotics Courier 2400E	379.
		U.S. Robotics Courier HST 9600	689.

## Blank Media

<b>5 1/4" Blank Diskettes</b>		Bulk (Sony) 3 1/2" DS/DD (box of 10)	16.
BASF 5.25" SS/DD (box of 10)	8.	Centech 3 1/2" DS/DD Color Disks (box of 10)	19.
Verbatim 5.25" SS/DD (box of 10)	10.	Sony 3.5" DS/DD (box of 10)	18.
Sony 5.25" SS/DD (box of 10)	9.	Fuji 3.5" DS/DD (box of 10)	20.
Maxell 5.25" SS/DD (box of 10)	10.	Maxell 3.5" DS/DD (box of 10)	20.
3M 5.25" SS/DD (box of 10)	11.	Verbatim DS/DD (box of 10)	19.
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BASF 3.5" DS/DD (box of 5)	9.	C. Itoh 3.5" DS/DD Color Disks (box of 10)	25.

## Printers

<b>Brother</b>		Microline 192Plus (200cps Dot Matrix 10")	339.
M-1109AP ImageWriter Comp.	249.	Microline 193Plus (200cps Dot Matrix 15")	489.
<b>Epson</b> LX-800	229.	<b>Panasonic</b>	
FX-86e	419.	KXP-1080 I, M2 (144 cps) NLQ Mode	199.
FX-286e	529.	KXP-1091 I, M2 (192 cps) NLQ Mode	229.
EX-1000	569.	KXP-1092 I (240 cps) NLQ Mode	329.
LQ-1000	739.	<b>Seikosha</b>	
<b>Okidata</b>		Seikosha SP 1000 (Imagewriter Compatible)	219.
Microline 182P (120cps Dot Matrix 10")	249.		

## Disk Drives & Hard Disk SubSystems

<b>American Micro Research (Micro Sci)</b>		"SD Series - Stack" Platinum 11e, 11gs	
A5 D Half Height 5 1/4" Drive (11gs Daisychain)	165.	20 MB w/SCSI card	675.
A.5 Half Height (11e & 11c)	139.	43 MB w/SCSI card	895.
A.5C Half Height (11c)	139.	60 MB w/SCSI card	955.
Micro Sci C2 Controller	52.	<b>First Class Peripherals</b>	
<b>Applied Engineering</b>		Sider 20MB Hard Drive	549.
Transdrive 360K	215.	Sider 40MB Hard Drive	839.
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Universal Disk Controller	79.	<b>Hi-Tech Peripherals</b>	
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"Compact Series" Beige 11e, 11gs		Half Height 3 1/4" Drive Platinum for 11gs	169.
20 MB w/SCSI card	765.	Apple 11c Drive Adaptor	15.
40 MB w/SCSI card	1075.	<b>Mitac</b> AD-3C Slimline 11c	129.

## Graphics Packages

<b>Activision</b> Draw Plus (Not Protected 11gs)	62.	<b>Data Transforms</b> Printrix I.I	46.
Paint/Write/Draw (Not Protected 11gs)	115.	Monster Font Pack	21.
Clip Art Gallery (Req. PaintWorks Plus 11gs)	21.	<b>Electronic Arts</b> DeluxePaint II (11gs)	69.
GameMaker Bundle	34.	DeluxePrint II (11gs)	37.
PaintWorks Gold	68.	Art Parts I or II, or Seasons & Holidays (11gs)	23.
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<b>Bantam Software</b>		Create-A-Calendar	21.
Walt Disney Card & Party Shop	27.	<b>Intracorp</b> Bumper Sticker Maker	34.
Walt Disney Comic Strip Maker	27.	Business Card Maker	37.
<b>Baudville</b> 816/ Paint (Works On All Apples)	46.	<b>PBI Software</b> Visualizer (11gs)	56.
Award Maker Plus	25.	Visualizer IIc	52.
Take 1 Deluxe	37.	<b>Scholastic</b> SuperPrint (11gs)	31.
Animation Library or Zany Characters	39.	<b>Spinnaker</b> T-Shirt Shop	34.
<b>Beagle Brothers</b> Beagle Graphics	16.	T-Shirt Shop Graphics	15.
Minipix Disk #1, #2 or #3 (each)	19.	<b>Springboard</b> Newsroom	39.
<b>Berkeley Software</b> GEOS	64.	Springboard Publisher (11e, 11c, 11gs)	84.
<b>Broderbund</b> Toy Shop	34.	Certificate Maker	26.
Dazzle Draw	41.	Certificate Maker Library #1	20.
Drawing Table (11gs)	62.	Fonts For Springboard Publisher	26.
Print Shop Enhanced or Fantavision	34.	Newsroom Clip Art Collection Vol. 1 or 3	20.
Print Shop (11gs) or Fantavision (11gs)	41.	Newsroom Clip Art Collection Vol. 2	26.
Print Shop School Edition	48.	Laser Drivers	26.
Dazzle Draw School Edition	48.	Style Sheets/ Newsletters	20.
Print Shop Companion	27.	Works of Art Education, Holidays or Assortment (each)	26.
Print Shop Graphics Library I, II, III or Holiday Ed.	17.	<b>StyleWare, Inc.</b> TopDraw (11gs)	58.
Print Shop Graphics Library Sampler Edition	24.	<b>United World</b> Printmaster Plus	31.
Print Shop Graphics Library Party Edition	24.	Art Gallery I or Art Gallery II	19.
Show Off (11gs)	41.	Art Gallery Fantasy	19.

## Communication Software

<b>Activision</b> Teleworks Plus	68.	<b>Pinpoint</b> Point-To-Point	74.
<b>Checkmate</b> Technology		<b>United Software</b> Industries	
ProTERM (11gs, 11e, 11c)	80.	ASCII: Express Pro: Products or Dos 3.3	74.
<b>Compuerve</b> Compuerve Starter Kit	24.	ASCII: Express Mousetalk	61.

## Accelerators/Ramcards/Z-80/80 Column Cards

<b>Apple Computer</b>		Z-RAM Ultra 1 (256K or 512K)	Call
Apple 11e Extended 80 Col. Card	89.	Z-RAM Ultra 2 or 3 (256K to 1MB)	Call
Apple 11e Enhancement Kit	49.	GS-RAM (256K to 1.5Meg)	Call
<b>Applied Engineering</b>		GS-RAM Plus (1MB to 6MB)	Call
Ramkeeper or SlotMover (Option)	Call	Phasor (11e, 11c, and 11gs)	145.
RamWorks Basic (256K or 512K)	Call	TransWarp Accelerator (11e and 11c)	179.
RamWorks III (64K to 3 MB)	Call	ViewMaster 80 (11e)	135.
2 Meg Plus RamWorks Expander (1 or 2MB)	Call	Z-80 Plus (11e, 11c, 11gs)	129.
PC Transporter (384K to 768K)	Call	<b>Checkmate Technology</b> MemorySaver (11gs)	125.
PC Transporter Installation Kit (11e or 11gs)	Call	<b>Orange Micro</b> RamPak 4GS	
RamFactor (256K to 1MB)	Call	(512K Exp. to 4MB w/Utilities)	229.

## Printer Interface Cards

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<b>Applied Engineering</b> BufferPro 32K	94.	Printech II (Parallel Interface)	37.
BufferPro 128K or 256K	Call	<b>Thirdware</b> Finger Print GS:	69.
Serial Pro (11e, 11c, 11gs)	119.	Finger Print Plus	
Parallel Pro (11e, 11c, 11gs)	85.	(Specify: Cables: Parallel, Serial or ImageWriter II-11e & 11c)	89.
<b>Orange Micro</b> ProGrappler (Apple 11e or 11gs)	84.	Fingerprint 11c (Internal or External Ver.)	74.
Serial Grappler Plus	64.	Finger Print G+ (With Parallel Cable 11e, 11c, 11gs)	55.
Grappler C/Mac/GS	84.		
Hot Link	54.		

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# BASIC Training

*Learning a programming language isn't as hard as you'd guess.  
Whatever your age or experience, your Apple can teach you new tricks  
that will develop your thinking skills and sharpen your logic.*

by Dan Bishop

Over the last 12 years, with microcomputers becoming a part of so many American households, more and more people from all age groups and walks of life have become interested in programming these “thinking” machines. There’s no one “best” way to learn a computer language. Opportunities vary throughout the country, and each individual’s response to any approach is unique.

## **BASIC: A GOOD PLACE TO START**

Several Apple II programming languages are available. (Check the accompanying **Table** for a list of Apple-compatible languages.) Most programmers of the Apple II, however, begin with BASIC and continue to use it extensively as their language of choice. That’s not surprising for two reasons: First, BASIC (Beginner’s All-purpose Symbolic Instruction Code) was designed for the novice programmer—but it’s also “rich” enough to satisfy even the advanced programmer’s needs. And, secondly, Apple Computer’s version of BASIC, known as Applesoft, is built right into every Apple II. It’s there in ROM (read-only memory), ready to go whenever you turn on your Apple. (See the accompanying sidebar for details on using Applesoft.)

For improved performance and a richer set of BASIC commands, a number of excellent BASIC interpreters and compilers are available from “third-party” manufacturers. These include **TML BASIC** (this month’s Editors’ Choice), **Micol BASIC**, Zedcor’s **ZBASIC**, and **Beagle Compiler**, which is actually an Applesoft accessory, not a separate dialect. (See “Compiled BASICs Compared,” Reviews, May 1987, p. 92, and the accompanying

Product Information box, as well as the **Table** and Company Addresses list.)

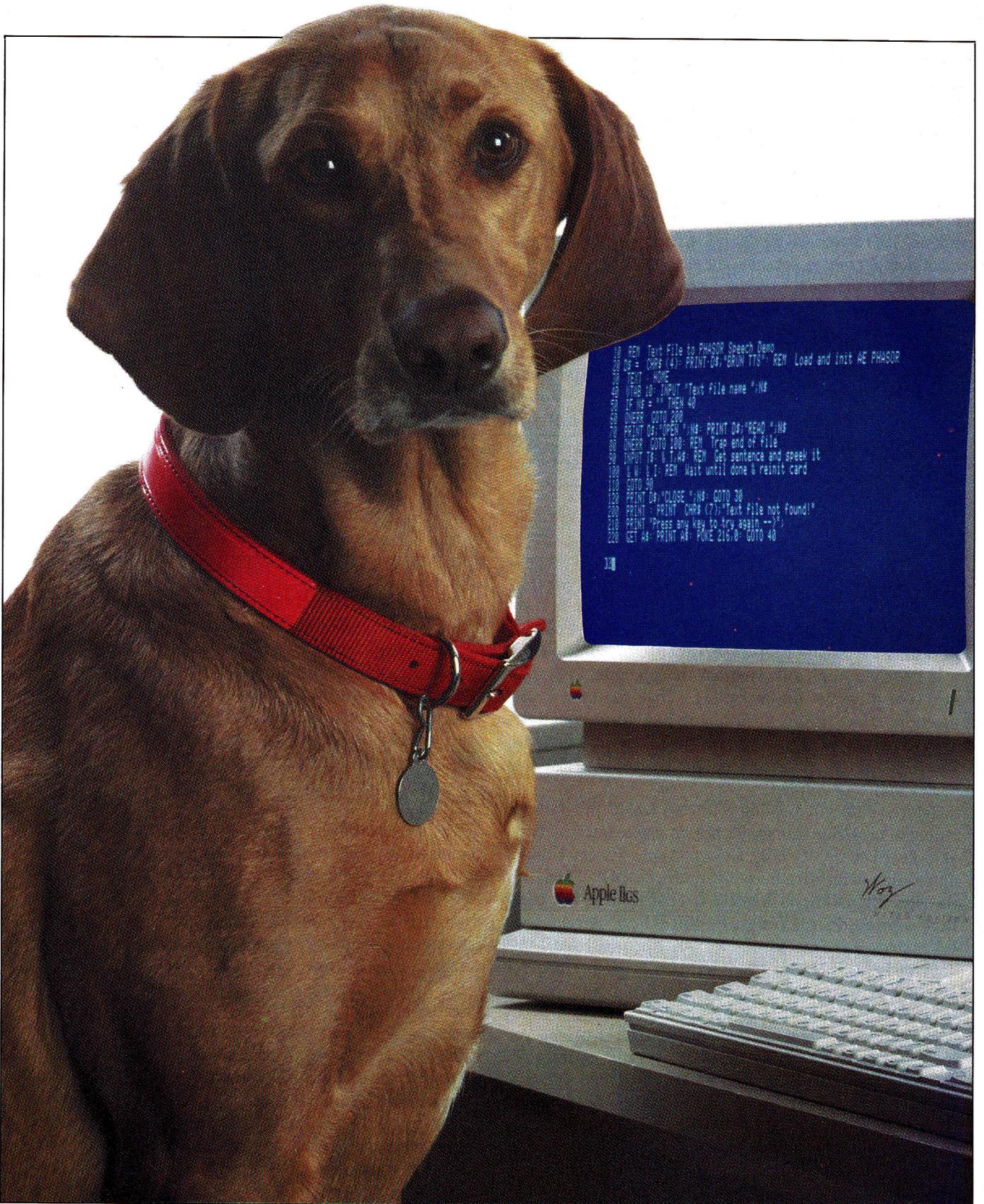
So what can you do, where can you go, whom can you see to help you learn and use a programming language, whether BASIC or one of the other Apple II languages?

## **THE COMMUNITY COLLEGE**

As a teacher for most of my professional life, I’m biased toward the classroom as an educational setting. Ironically, though, the greater part of my own knowledge of computers and programming has been self-taught. But programming doesn’t always come easy; it’s helpful to have someone around to explain concepts clearly and patiently and to help you over difficult spots. An evening class may be the most economical way you can achieve this experience.

The unfortunate thing about formal classes is the wide variation in the way instructors present material. If a class is designed to provide college credit for transfer to a state university, for instance, it may be much tougher and cover material much faster than you’re comfortable with. On the other hand, a “computer literacy” class, aimed at the person who has never turned a computer on before, may offer little or no programming instruction.

Find out which beginning computer classes are available and who the instructors are before you register for a course. Contact the instructors and discuss your expectations and background. Ask about their goals and try to judge their degree of flexibility in response to individual needs. Find out the material they intend to cover and request a course outline.



Try to determine how you and the instructor are likely to relate to each other when you have a problem or need individual help. Will the instructor be willing to take the time to answer questions? Does he or she seem able to explain concepts in clear, nontechnical terms?

Another important consideration is the amount of class time you'll spend doing "hands-on" programming. Strange as it may seem, many courses consist entirely of lecture and demonstration and are less valuable than one in which you can practice what you're supposed to be learning under supervision. A "hands-on" lab can reduce the countless frustrating hours you'll spend at home trying to get some simple process to work right.

Try to locate someone who has taken the course before or has had a particular instructor. Find out how the instructor handled the course, how responsive he or she was, and whether the student felt the class was worthwhile. Keep in mind, though, that each of us responds individually to a given experience; your reaction may be different from someone else's.

## COMPUTER TEXTBOOKS

Hundreds of books on programming, covering the complete spectrum of consumer needs, have been published in recent years. Some are designed for the college classroom, others for the beginner who simply wants to understand a little more about the world of computers. Finding the right reference for your individual needs can be difficult. Bookstores and computer shops carry only a small selection of those titles; no single text is perfect for everyone.

An additional consideration is that Applesoft is a subset within the family of other BASIC dialects; a BASIC-programming text you purchase may include commands and concepts not available in Applesoft. Unless your text is specifically oriented toward Applesoft BASIC, the most logical place to start is Apple's *BASIC Programming with ProDOS* or *Applesoft Tutorial*, along with some of the other volumes in the Apple library, such as those that come with the various Apple machines. Many people find these books too technical and lacking in useful examples, however,

## BASIC for Novices



Apple Computer's version of BASIC, Applesoft, is built into your computer's ROM. You can "get into" Applesoft by pressing Control-Open apple-Reset with no program disks in your drives (or at least in the "boot" drive, #1). Look for its distinctive prompt (I) to know you're really in Applesoft.

ROM-based Applesoft is limited, though, in that you can't save your programs for later use. For that, you need a disk-based "interface" to link up Applesoft BASIC with your disks. The "system" program, BASIC.SYSTEM, does just that with ProDOS. You can find it on the System Utilities disk that comes with your Apple II.

Before you begin creating your own BASIC programs or typing in magazine listings, it's best to make your own bootable ProDOS BASIC disk. Use an Apple System Utilities application to format a fresh disk under ProDOS. Then copy the files PRODOS and BASIC.SYSTEM to it. If you use a IIGS, copy the P8 file from the SYSTEM directory of your GS System Disk instead of ProDOS. Then RENAME that copy of P8 as ProDOS. That's all there is to it. Whenever you turn on your Apple or reset it with that disk in the boot drive, Applesoft will start automatically.

Now you're ready to type in an Applesoft program. You can invoke some BASIC commands "directly" to test their effects; simply type the command next to the Applesoft prompt and press the return key. For example, try typing PRINT "I LOVE TO PROGRAM" and press the return key. The message I LOVE TO PROGRAM should appear immediately and below your typed line.

BASIC programs are composed of a collection of "deferred" commands. That is, your Apple doesn't execute the commands until you RUN the program. Try typing 10 PRINT "I LOVE TO PROGRAM" and press Return. Nothing hap-



pens. Now type RUN and Return. That familiar message should now appear.

All BASIC program lines begin with a line number followed by one or more program commands separated by a colon (:), and end with a press of the return key. You can enter the program lines in any order; Applesoft arranges them automatically in ascending line-number order. Remember, though, your Apple executes the program in line-number order unless you use special "branch" commands such as GOTO or GOSUB. Also, computers are very picky about typographical errors. The smallest mistake can "crash" your program.

When you've finished entering a program, use the LIST command to review your work. Press the control-S key combination to stop and restart the listing. Control-C will end a LIST prematurely. You can also send a LISTing to your printer. Type PR#1 (or the slot number for your printer interface if other than 1) to activate your printer. Then LIST your program. Deactivate the printer by typing PR#0.

SAVE your program on disk before RUNNING it just in case the program has any "fatal" errors. If your program somehow "locks up" your Apple and forces you to reset, you'll lose your work. Type SAVE and a filename, then Return. To retrieve that program from disk, type LOAD and the filename, followed by Return.

Now type RUN and press Return. Keep a printed listing handy; try to match what you see happening on your Apple screen with the corresponding code in the listing. And don't forget to play some "what if" games with the program to learn how simple alterations affect the execution of the program. □

—William P. Kennedy, Ph.D., Technical Editor

# **Æ Update . . .**

PC Transporter now includes powerful AppleWorks enhancement software. Not only does PC Transporter use an Apple IIGS, IIe or II+'s existing peripherals for IBM emulation but it also acts as an Apple memory expansion card in Apple mode. The new AppleWorks enhancement software will expand AppleWorks 2.0 internal limits; it vastly increases the desktop, auto-loads all of AppleWorks in RAM, increases the maximum database records from 7250 to 22,600, increases word processor lines from 2250 to 22,600, expands the clipboard size from 255 to 2,042 lines, displays and stamps files with a ProDOS clock and automatically segments files onto multiple floppies.

RamKeeper is now shipping and includes the AE-Cache and AppleWorks enhancement software. This powerful software enhances the operation of both AppleWorks and access to the Apple 3.5 Drive. RamKeeper will allow instant access to favorite programs stored in RAM upon boot-up as well as the ability to have two Apple IIGS memory cards plugged in simultaneously. The RamKeeper comes complete with battery and enhancement software for only \$179.00.

AE is announcing a new IIGS stereo digitizer/MIDI card called Audio Animator. Audio Animator is a digitizer that takes advantage of the IIGS Ensoniq sound chip as well as full support for a MIDI device such as MIDI keyboard. Powerful graphic sampling software is included that takes full advantage of the color and mouse support in the Apple IIGS. The MIDI support is totally Passport compatible and includes a MIDI input/output box.

RAM chip prices have been soaring rapidly due to a worldwide RAM chip shortage. Prices for 1 Meg chips should remain stable through 1988 while 256K chip prices will rise steadily. Industry sources indicate that there will be no relief this year from the current situation.

DataLink's IIGS/IIe communication software now supports VT-52 emulation. In addition to the powerful IIGS/IIe software included with DataLink, Apple II+ specific software is now included that allows II+ owners to easily connect to popular services. The 300/1200 baud DataLink modem is still the same low price - \$219.00. Previous owners that wish to upgrade to the latest software can upgrade for a nominal \$10.00 charge.

The A+ Magazine Reader's Choice Award has been awarded to RamWorks III and Serial Pro. For the memory card category, RamWorks III was the A+ reader's favorite. The serial/clock card, Serial Pro, won the multifunction card category.

with answers to specific questions difficult to track down.

One popular "third-party" book is the *Apple II User's Guide*, by Lon Poole, Martin McNiff, and Steven Cook. It devotes nearly 200 pages to programming in BASIC, an additional 60 pages to a dictionary of Applesoft BASIC commands and how to use them, and another chapter to your Apple's system monitor and machine language. Starting with simple immediate-mode commands and leading into short BASIC programs, it makes no assumptions about prior programming experience. Numerous examples illustrate the points covered and include explanations of how each short program works.

## COMPUTER MAGAZINES AND PUBLIC-DOMAIN SOFTWARE

A surprising number of people have used programs from "public domain" software libraries (check out local electronic bulletin boards and user groups), as well as articles and programs appearing in computer magazines such as *inCider* to teach themselves BASIC and other programming languages. (See the accompanying list of public-domain resources, plus "Striking Gold in Public-Domain Software," February 1987, p. 40.) Learning by example is perhaps the most powerful and rewarding method known. In addition, you can set your own pace and schedule time on your own computer at your convenience. Yet, the process can be slow, sometimes painfully frustrating, because

you're pretty much on your own; such "freeware" usually assumes you have at least some programming experience.

Public-domain listings run the gamut from the short and simple to long, complex programs—and they appear in many different languages, although most are BASIC listings. To gain the best programming experience, select and study those programs that are just slightly above your current level of expertise.

Most public-domain programs for your Apple are written in BASIC and come unprotected, letting you load them into your computer and use the LIST command to view the code. If you direct the listing to your printer, you can get a hardcopy. (At the BASIC prompt type PR#1—or whatever number corresponds to the slot in which your printer is installed—press Return, type LIST, and press Return. Type PR#0 to return to screen output.) Although such listings are usually far longer and more complex than those appearing in magazines, you can still use the same techniques to better understand Applesoft BASIC.

The most fun and rewarding method of learning programming through public-domain software is to play "what if" games. Make small changes in the code and run the program again; note the effect your editing has on the program's operation. For example, your listing may contain five PRINT commands in a row, with a semicolon at the end of each. If you don't know how the semicolons affect the displayed text, take them out and

Company Name	Product Name	Version	Language	HW	OS	Memory	C	I
ABSsoft	AC/BASIC	1.1	BASIC	GS	ProDOS	512K	Y	N
Apple	Instant Pascal	1.5	Pascal	enhanced e,c,GS	ProDOS	128K	N	Y
Apple (APDA)	Pascal	1.3	Pascal	+,e,c,GS	Pascal	64K	Y	Y
Beagle Bros	ProBASIC	1.1	BASIC	+,e,c,GS	ProDOS	64K	N	Y
Blankenship & Assoc.	Blankenship BASIC	2.7	BASIC	+,e,c,GS	ProDOS, DOS	48K	N	Y
Byte Works	ORCA/Pascal	1.1	Pascal	GS	ProDOS 16	768K	Y	N
Byte Works	Small-C	1.0	C	+,e,c,GS	ProDOS	48K	Y	N
Kyan	Kyan Pascal	N/A	Pascal	enhanced e,c,GS	ProDOS	128K	N/A	N/A
Logo Computer Systems	LogoWriter	2.0	Logo	+,e,c,GS	ProDOS	64K	N	Y
Manx	Aztec C	3.20b	C	+,e,enhanced e	ProDOS	64K	Y	N
Micol	Micol BASIC	2.0	BASIC	+,e,c,GS	ProDOS	64K	Y	N
Mountain View Press	MVP Forth	1.0103	Forth	+,e,c,GS	ProDOS	48K	Y	N
Pecan	UCSD Pascal	2.2	Pascal	+,e,c	ProDOS	64K	Y	N
Pecan	Modula-2	2.2	Modula-2	GS	ProDOS 16	768K	Y	N
Pecan	Fortran 77	2.2	Fortran	GS	ProDOS 16	768K	Y	N
Pecan	BASIC Power System	2.2	BASIC	GS	ProDOS 16	768K	Y	N
System Management Assoc.	PROMAL	2.1	PROMAL	e,c,GS	ProDOS	128K	Y	N
Terrapin	Terrapin LOGO	3.0	Logo	+,e,c,GS	DOS 3.3	64K	N	Y
TML Systems	TML BASIC	1.00	BASIC	GS	ProDOS 16	512K	Y	N
TML Systems	TML Pascal	1.00b	Pascal	GS	ProDOS 16	512K	Y	N
XPrime Corporation	KeyLISP	1.1a	LISP	+,e,c,GS	ProDOS	64K	Y	N
Zedcor	ZBASIC	4.00	BASIC	+,e,c,GS	ProDOS, DOS	128K	Y	N

### Key

HW = compatible hardware model  
OS = operating system

C = compiled?  
I = interpreted?

O = on-line help?  
Man = number of pages in manual



observe the change in your display when you rerun the program.

And don't be afraid to modify a program if it doesn't do everything you want it to do. Now you're doing some serious programming on your own, and that's when you'll begin to really learn how.

One final note: Be sure you don't edit a program and save it to disk unless you know which features you want to add or change and exactly how to do that. You don't want to run the risk of destroying the original program accidentally.

### SYNTAX VERSUS PROGRAMMING

Learning the specific commands that make up Applesoft BASIC, or any other computer language, is only one part of programming. Just as important is your ability to define a problem you want your Apple to solve, then analyze it, breaking down the solution into identifiable tasks the computer must carry out in a clearly defined sequence. You must then dismantle each of those tasks into the set of Applesoft instructions your program will execute to accomplish that portion.

As you study a language, pick up one or more texts on program *design*, along with the specifics of the language's syntax. Despite its somewhat sexist illustrations, one such text, *How to Write an Apple Program*, by Ed Faulk, provides a clear outline of programming as a process, from idea definition through program coding. It covers many of the common tools program-

## Sources of Public-Domain Software

(24-hour orders)  
(716) 671-6160  
(716) 671-6167

**Palos Computer Concepts**  
P.O. Box 560  
Palos Park, IL 60464

**Public-Domain Exchange**  
2074C Walsh  
Suite 753  
Santa Clara, CA 95050  
(800) 331-8125  
(408) 496-0624

**A.P.P.L.E. Co-op**  
290 S.W. 43rd St.  
Renton, WA 98055

**Computer Learning Center**  
P.O. Box 110876  
Tacoma, WA 98411  
(206) 474-5750

**Dynacomp, Inc.**  
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Rochester, NY 14618  
(800) 828-6772

**3A Computer Products**  
Apple Avocation Alliance  
1803 Warren Avenue  
Cheyenne, WY 82001  
(307) 632-8561

O	Man	T	X	Review	Cost	Compatible with	Special Features
N	400	Y	Y		\$125	Microsoft BASIC	direct support hi-level graphics; compatible w/Microsoft
Y	410	Y	Y	4:86:30	\$140		graphics, tutorial, mouse control, pocket guide
N/A	500	N/A	Y		\$75	p-system Pascal	
N	N/A	Y	N		\$49.95	Applesoft BASIC, BASIC	on other side of Program Writer; 2 library disks \$20 each
Y	43	Y	Y		\$25	fully Applesoft except HGR2	functions built in; search and sort
Y	287	Y	Y		\$125	any language that uses APW	ISO standard compiler (Internat'l Standards Organization)
Y	81	Y	N		\$39.95	ORCAM 4.1	includes complete source code
N/A	N/A	N/A	N/A	12:85:120	N/A		
Y	200	Y	Y		\$129	Logo	built-in word processor
N/A	151	Y	Y		\$299	full implementation of K&R C	2 compilers; pseudo code; assembler, library, & editor
N	280	Y	Y	5:87:92	\$69.95	Applesoft BASIC (95%)	structured BASIC
N	88	N	N		\$125		
Y	195	N	Y		\$99.95	Apple Pascal	compiler w/ integrated development tools; portability
Y	176	N	Y		\$99.95		compiler w/ integrated development tools; portability
Y	160	N	Y		\$99.95		compiler w/ integrated development tools; portability
Y	150	N	Y		\$99.95		compiler w/ integrated development tools; portability
Y	350	Y	Y	6:86:98	\$49.95	none	similar to C, easier to learn, MS-DOS-like executive
N	500	Y	Y		\$99.95		trace function, saves standard Apple pictures
N	490	Y	Y	6:88:112	\$125	TML Pascal, Apple GS BASIC	control structure
Y	225	Y	Y	3:88:40	\$125		
N/A	424	Y	N/A		\$149		
Y	430	N	Y	2:87:92	\$49.95	ZBASIC for Mac, MS-DOS, CPM	

T = tutorial on line or in manual?

X = index in manual?

N/A = information not available

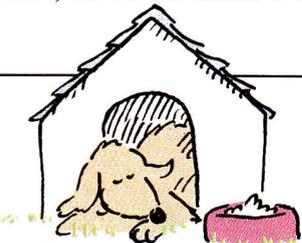
K&R C = Kirghenan and Ritchie (*The C Programming Language*)

mers use, from flowcharts, hierarchy diagrams, and pseudocode through testing and debugging.

## BEYOND BASIC

BASIC doesn't have to be either the first or the last programming language you tackle. Many computer-science departments in colleges across the country have chosen to teach Pascal in their beginning programming courses. Among other languages currently enjoying heightened interest are Logo, LISP, and C, a fairly advanced language that offers bit manipulation and built-in access to registers in your Apple's central processing unit (CPU). Nevertheless, BASIC, with its widespread availability on many types of microcomputer systems and a relatively simple instruction set, remains the best first choice for the beginning programmer. ■

*Dan Bishop is the author of inCider's Applesoft Adviser column on BASIC programming. He owns and operates a microcomputer consulting business. Write to him at 4124 Beaver Creek Drive, Fort Collins, CO 80526. Enclose a self-addressed, stamped envelope if you'd like a personal reply.*



**ABSsoft**  
2781 Bond Street  
Auburn Hills, MI 48057  
(313) 853-0050

Reader Service No. 327

**Apple Computer Inc.**  
20525 Mariani Ave.  
Cupertino, CA 95014  
(408) 996-1010  
(408) 973-2042

Reader Service No. 328

**Beagle Bros Inc.**  
6215 Ferris Square  
Suite 100  
San Diego, CA 92121  
(800) 345-1750  
(800) 992-4022 (CA)  
(619) 452-5500

Reader Service No. 329

**Blankenship & Assoc.**  
P.O. Box 47934  
Atlanta, GA 30362  
(404) 491-3151

Reader Service No. 330

## Company Addresses

**Byte Works Inc.**  
4700 Irving Blvd. NW  
Suite 207  
Albuquerque, NM 87114  
(505) 898-8183

Reader Service No. 331

**Kyan Software**  
1850 Union Street  
Suite #183  
San Francisco, CA 94123  
(415) 775-2923  
(415) 626-2080

Reader Service No. 332

**Logo Computer Systems**  
121 Mount Vernon St.  
Boston, MA 02108  
(800) 321-5646  
(617) 742-4042

Reader Service No. 333

**Manx**  
One Industrial Way  
Eatontown, NJ 07724  
(800) 221-0440  
(201) 542-2121

Reader Service No. 334

## Product Information

**Apple II User's Guide  
for the Apple II Plus and  
Apple IIe**  
Osborne/McGraw-Hill  
2600 Tenth Street  
Berkeley, CA 94710  
1981  
\$18.95

Reader Service No. 321

**Applesoft Tutorial  
BASIC Programming with  
ProDOS**  
Addison-Wesley  
Route 128  
Reading, MA 01867  
\$29.95 each

Reader Service No. 322

**Beagle Compiler**  
Beagle Bros Inc.  
6215 Ferris Square  
San Diego, CA 92121  
\$74.95

Reader Service No. 323

**How to Write  
an Apple Program**  
Datamost, Inc.  
9748 Cozycroft Ave.  
Chatsworth, CA 91311  
1982

Reader Service No. 324

**Micol Systems**  
9 Lynch Road  
Toronto, Ontario  
Canada M2J 2V6  
(416) 495-6864

Reader Service No. 335

**Mountain View Press**  
P.O. Box 4656  
Mountain View, CA 94040  
(415) 961-4103

Reader Service No. 336

**Pecan Software Systems**  
1410 39th Street  
Brooklyn, NY 12118  
(718) 851-3100

Reader Service No. 338

**System Management  
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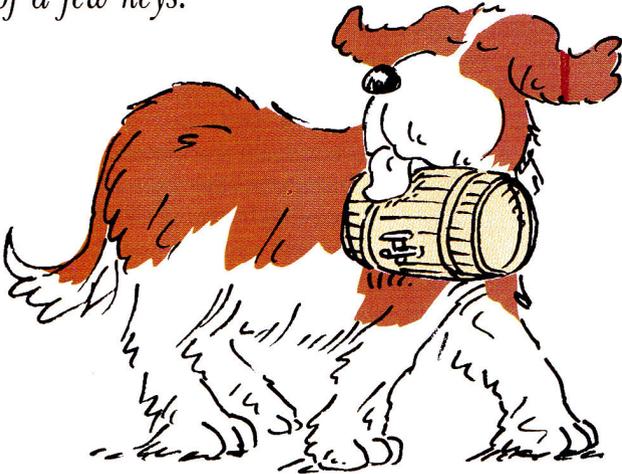
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# HELP!

by William P. Kennedy, Ph.D., Technical Editor

*Got the documentation blues? Chuck those manuals—create your own on-line card file of hints and tips you can access at the press of a few keys.*



**T**echnical manuals—*bah!* There's no greater frustration known in these modern times: paging through one or several computer books in a desperate attempt to figure out what that fragment of "computerese" might mean. This machine is supposed to be "intelligent"! Can't it just tell me how already? There's got to be a better way!

Sound familiar? Well, there *is* a better way. And you've probably seen it if you've used one of the "better" application programs: "on-line" helpful hints. Press the open apple-question mark key combination (OA-?), for instance, and, voilà, up comes a list of AppleWorks operations right there on your monitor. And the best thing about electronic help lists is that you always know where they are—right there in your Apple's memory or on the disk in your drive, waiting to serve. Your manuals, on the other hand, may be under the seat in the car, or packed away in a box in the attic if the dog hasn't gotten to them yet.

Unfortunately, only the "better" software applications contain help menus. And, for even the advanced programmer, incorporating helpful hints into your own programs can be a royal pain.

No more. We've created a ProDOS-based system that lets you create and use your own hints. You can even use it as a card file to store short memos, recipes, birthdays, phone numbers, and so on. And it's as easy to use as you'd hope a help system would be.

## INSTALLING THE HELP PROGRAM

Start creating and installing your own helpful hints by formatting a fresh ProDOS disk. Select a new volume name that best describes the hints that may be found therein; /MISC is a good choice for general hints. Copy PRODOS and BASIC.SYSTEM to the /MISC disk so that it will boot.

Type in the BASIC program shown in **Listing 1**, SAVE it on your /MISC disk as HELPMAKER, then RUN it. Line 30 POKES a machine-language program, the HELP file manager, into memory. That's the program responsible for loading and printing hints from your help files. BSAVE it as HELP.DRVR,A\$2000,L\$1D1.

Next, type in and SAVE the STARTUP program shown in **Listing 2**. This BASIC program loads and installs HELP.DRVR whenever you boot your help disk.

You can also easily install and use HELP.DRVR within your own programs. You need to load and install HELP.DRVR only once each time you boot your Apple. If you use your own program as the boot program, simply add the command that installs HELP.DRVR, similar to the way it's done in the STARTUP program: PRINT CHR\$(4);"-HELP.DRVR". Be sure to include that command early in your BASIC program because the routine resets HIMEM.

## WHAT'S IN A HINT?

Now you're ready to create your files of helpful hints. What's an appropriate hint? Just about anything you might otherwise write on a 3-by-5-inch index card. In fact, you might think of

## First Aid for Programmers

Tired of the typing and typos inherent in freeware? Need a better help system? Purchase HELP! on disk. It's an enhanced program with a number of attractive features, such as "silent" window text displays, an internal HELP prefix, and protected installation.

Purchase a copy of HELP! now and receive /HELP/APPLESOFT on the same disk. This special help-file collection

contains descriptions of all Applesoft BASIC commands and appropriate syntax. It virtually guarantees you a better knowledge of Applesoft and can be an excellent educational tool for the classroom.

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—W.K.

```

10 REM HELP.MAKER [931]
20 REM by William Kennedy [1950]
30 REM Copyright 1988, inCider [2221]
50 FOR I = 8192 'TO 8656: READ N: POKE I,N: NEXT I [2052]
60 REM Don't forget to BSAVE HELP.DRVR,AS2000,L$1D1 [3407]
70 END [198]
100 DATA 173,7,190,141,0,33,173,8,190,141 [1838]
110 DATA 1,33,169,199,32,112,190,32,211,32 [1896]
120 DATA 160,0,177,60,208,113,173,61,190,74 [1961]
130 DATA 10,10,10,13,60,190,10,10,10,10 [1724]
140 DATA 141,199,190,173,108,190,24,105,1,141 [2079]
150 DATA 200,190,173,109,190,105,0,141,201,190 [2121]
160 DATA 169,2,141,198,190,169,197,32,112,190 [2119]
170 DATA 144,43,162,123,189,87,32,32,237,253 [2073]
180 DATA 202,208,247,169,12,76,9,190,141,161 [2079]
190 DATA 228,229,236,236,225,244,243,238,233,160 [2292]
200 DATA 244,239,238,160,242,229,246,233,242,228 [2304]
210 DATA 160,240,236,229,200,32,211,32,160,1 [2078]
220 DATA 177,60,41,15,24,105,2,72,168,169 [1969]
230 DATA 47,145,60,160,1,145,60,136,104,24 [2013]
240 DATA 105,5,145,60,168,162,4,189,190,33 [2040]
250 DATA 41,127,145,60,136,202,16,245,169,198 [2202]
260 DATA 32,112,190,169,1,216,32,245,190,176 [1897]
270 DATA 157,133,61,141,32,33,141,175,33,141 [1897]
280 DATA 251,32,141,8,190,169,224,141,250,32 [1911]
290 DATA 169,229,141,174,33,160,0,132,60,140 [1919]
300 DATA 7,190,185,222,32,145,60,200,208,248 [1936]
310 DATA 96,173,108,190,133,60,173,109,190,133 [2054]
320 DATA 61,96,162,0,160,0,189,0,2,9 [1555]
330 DATA 128,201,160,208,8,232,208,244,189,0 [1966]
340 DATA 2,9,128,201,224,144,2,41,223,217 [1814]
350 DATA 190,33,240,4,56,76,158,190,232,200 [1937]
360 DATA 192,4,144,230,136,140,82,190,162,5 [1943]
370 DATA 142,84,190,202,142,85,190,169,0,141 [2007]
380 DATA 83,190,169,72,141,80,190,169,33,141 [2030]
390 DATA 81,190,24,96,169,10,141,180,190,173 [2035]
400 DATA 108,190,141,181,190,141,204,190,173,109 [2232]
410 DATA 190,141,182,190,141,205,190,169,196,32 [2203]
420 DATA 112,190,176,99,173,184,190,201,4,240 [2113]
430 DATA 4,169,13,208,88,165,115,141,206,190 [2075]
440 DATA 165,116,141,207,190,169,200,32,112,190 [2218]
450 DATA 176,71,173,208,190,141,214,190,141,222 [2234]
460 DATA 190,169,0,141,215,190,169,2,141,216 [2095]
470 DATA 190,169,1,141,217,190,169,0,141,218 [2108]
480 DATA 190,169,202,32,112,190,176,19,173,0 [2116]
490 DATA 2,9,128,32,237,253,173,0,192,16 [1929]
500 DATA 236,201,155,208,232,169,0,72,169,204 [2189]
510 DATA 32,112,190,44,16,192,104,240,19,201 [2132]
520 DATA 5,240,15,201,7,208,13,162,13,189 [1745]
530 DATA 195,33,32,237,253,202,16,247,24,96 [1872]
540 DATA 141,15,190,76,9,190,200,197,204,208 [1926]
550 DATA 175,174,228,238,245,239,230,160,231,238 [2145]
560 DATA 233,232,244,239,206 [1156]

```

*Listing 1. BASIC program creating Help Driver, which loads and prints hints from your files.*

```

10 REM STARTUP example for HELP.DRVR [2615]
20 REM by William Kennedy [1950]
30 TEXT : HOME [376]
40 PRINT CHR$(4);"-HELP.DRVR" [1423]
50 PRINT "HELP.DRVR is installed!" [2242]
60 END [188]

```

*Listing 2. Startup program installs the Help Driver system whenever you boot your hints disk.*

your help system as an electronic card filer. The help file itself is the file box, and each card inside is a hint, recipe, programming tip, calendar day, whatever you like. A sample hint describing how to use the HELP command is provided in the accompanying sidebar.

You can use any text processor, including AppleWorks, to type in and save your hints. Just remember a few things. First and foremost, create *one* ASCII file for each hint. The HELP program will recognize only ProDOS ASCII files (filetype TXT). Many text processors save documents automatically as ASCII files or have the "save as an ASCII or text file" option. From

AppleWorks, print (Open apple-P) your hint to a "text (ASCII) file on disk."

Another thing to keep in mind is to make your hints as brief but informative as possible. Although the HELP.DRVR program will print a massive discourse, who'll want to read it? Rather, cite references (okay, manuals *sometimes* can be useful) in your hints if your reader might need more detail.

It's also best for the sake of presentation—although not necessary—to format your hint for either 40 or 80 columns, depending on the screen width your audience will use more often. End each typed line of your hint with a carriage return to preserve that format.

Also, use a short, descriptive filename when saving each hint so that you or someone else using HELP won't have trouble finding any particular one. (You'll be looking for this filename when you use HELP.)

Finally, it's easiest at first, but again not necessary, to save your hint text files in a ProDOS subdirectory called /HELP. You can create a subdirectory on your disk by typing CREATE HELP while in BASIC. AppleWorks users can also use the "Other Activities" menu option #3 to create a subdirectory.

## HELP IS ON THE WAY

Your helpful hints are now ready to use. Boot your /MISC disk or, while in BASIC, put the disk into the drive and type -HELP.DRVR.

Type HELP (or *help*—case is unimportant), then the name of the hint you want to see. Or, if you want a printed copy of the hint, type PR#1 (or the number of the slot where your printer is installed if other than 1). Then type HELP and the hint's name. That's all there is to it!

If the hint doesn't exist, the message "None found" will

## Programming On-Line Hints

Here's a sample hint along with a description of how it will look when displayed by the HELP.DRVR program. It's a text file named HINT found on disk in a subdirectory named /HELP. In this example, the HELP command you'd type to see the hint is shown as the first line next to the BASIC prompt (J). Following that is the hint as it might be displayed on your monitor. Notice that the hint is formatted for a 40-column screen width.

JHELP HINT

Syntax: HELP </vol/><dir/> hint name

The current system prefix is automatically appended to the hint name. Change the system prefix or specify a new volume (/vol/) and/or subdirectory (dir/) to locate a file in another path. The hint name must be a text (ASCII) file.

appear. Other ProDOS errors will be handled as they are normally under BASIC.

To use HELP.DRVR within your own BASIC programs, make sure you've BRUN it and installed it as mentioned above (only once for each session). Then, within your program, INPUT a hint name. Type INPUT "Hint name? "; H\$, for example, then print that hint with the command PRINT CHR\$(4);"HELP"; H\$.

## HELP FROM ALL DIRECTIONS

What if you want to access hints in ProDOS directories other than /HELP? You may want to have several different directories, even disks, with different collections of hints. Better yet, you might want your hint files in a RAM disk (volume /RAM) for quick retrieval.

HELP.DRVR uses what's known as the ProDOS "system prefix" to find your hint files. In fact, when first installed, HELP.DRVR appends the directory name /HELP to the current prefix. If you get the "None found" message and you know the hint exists, the system might be looking down the wrong ProDOS path for your file.

Before you set up your help files, it's best to have an understanding of ProDOS pathnames and prefixes. Here's a simple illustration: Let's assume you'd booted the disk formatted with the volume name /MISC. When installed, HELP.DRVR then sets the system prefix to /MISC/HELP. So when you type HELP HINT to see the file HINT, the actual pathname that HELP.DRVR and ProDOS use is /MISC/HELP/HINT. You can see the current system prefix anytime by typing PREFIX.

There are several ways to manipulate a ProDOS pathname to access a variety of hint directories. First, you can specify one or more additional directories to be added to the current prefix. For example, assuming the system prefix is /MISC/HELP, the command HELP SUB/HINT ultimately uses the pathname /MISC/HELP/SUB/HINT.

Or, you can specify a full pathname for the file you want to access, one that includes the disk-volume name and all directory names leading to your file. Hence, the command HELP /OTHER /DIFFERENT/HINT will access HINT in the /DIFFERENT directory on the /OTHER disk.

Finally, you can change the system prefix and specify your own ProDOS path to your hint files. Do so using the syntax PREFIX /<volume name>/<any and all subdirectories>. For example, rather than type the full pathname to access /OTHER/DIFFERENT/HINT, you could set the prefix with PREFIX /OTHER/DIFFERENT, or, within a BASIC program, PRINT CHR\$(4);"PREFIX /OTHER/DIFFERENT." Then you just need to type HELP HINT to access the pathname /OTHER/DIFFERENT/HINT.

## NO LONGER HELPLESS

Once you begin computerizing your own hints and tidbits, you'll soon wonder why you didn't try it earlier. The HELP system presented here will make the task just that much easier. And don't forget to share your valuable hints with your friends. ■

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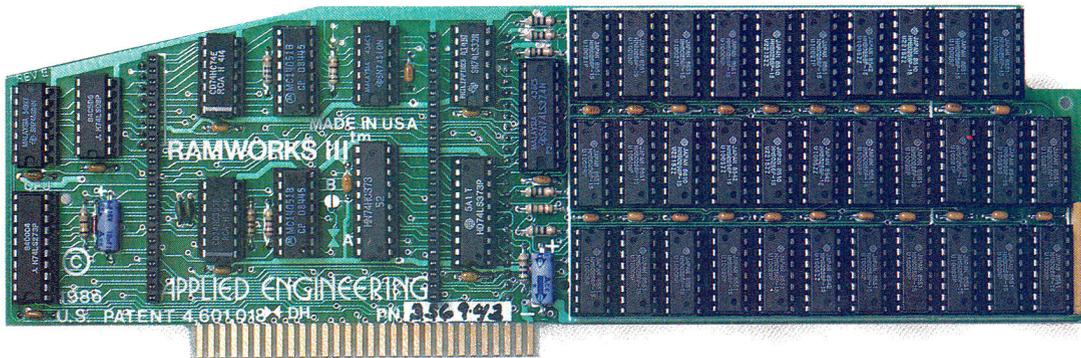
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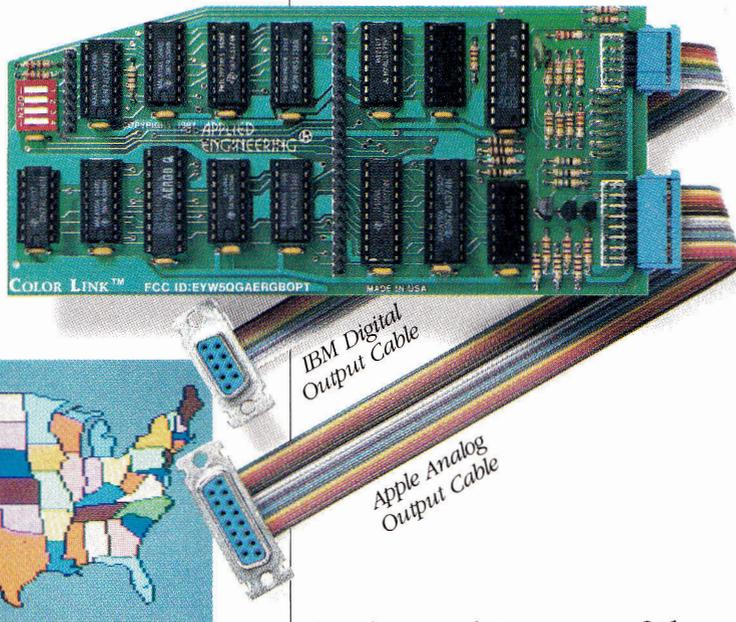
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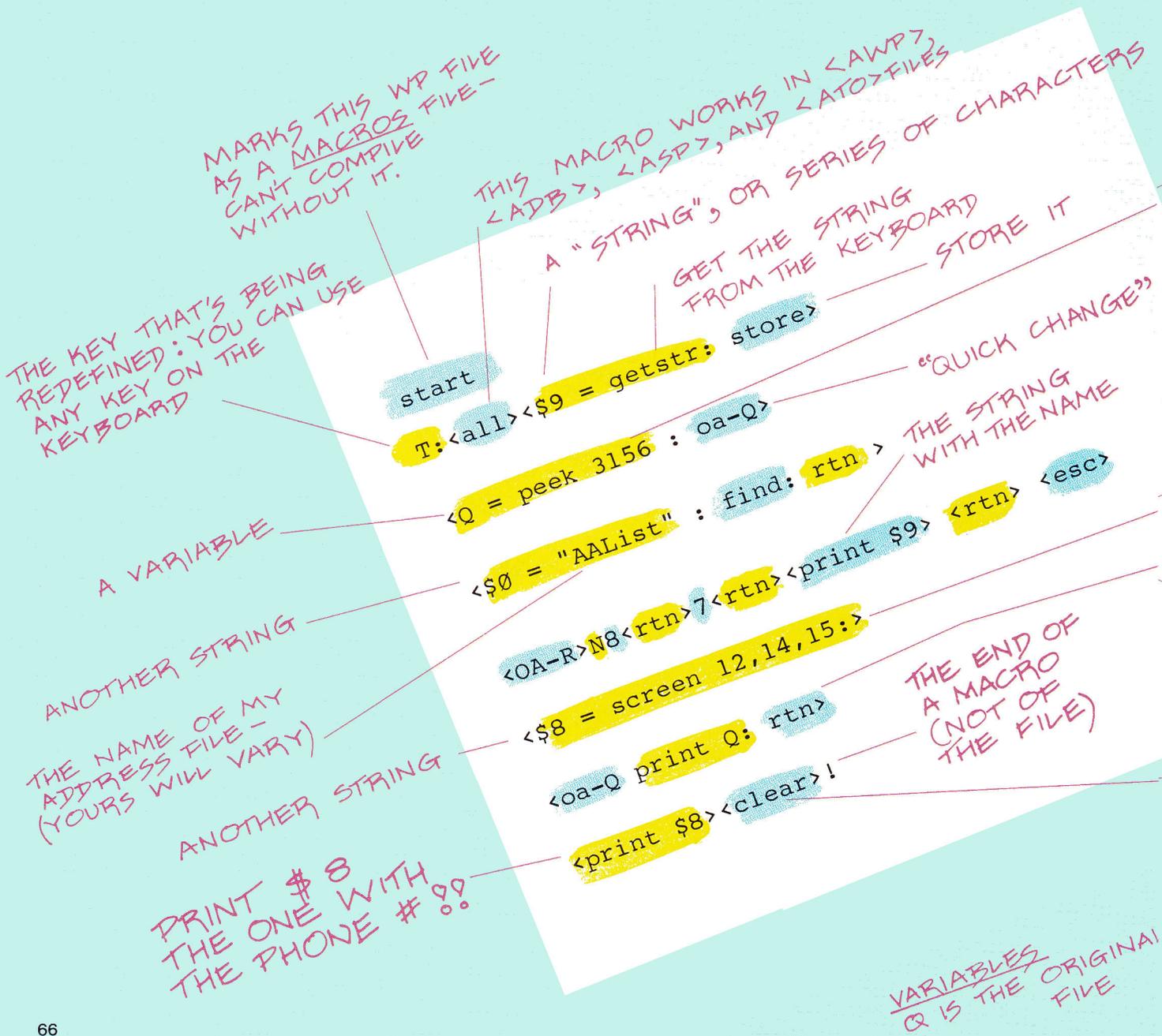
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# The Making of a Macro

by Paul Statt, Senior Editor



You can't speak a word of BASIC, Pascal, or C? Try talking macros to your machine—they make AppleWorks a whole lot faster and easier to use. If you can write a macro, you can program your Apple II.

**B**ASIC's not the only game in town. If you use AppleWorks, if you like AppleWorks but want to cut your typing time, the best programming language to learn is *macro*.

Writing a macro—a series of instructions that tells AppleWorks what to do—is computer programming. Now, the guys who wrote the manuals for Beagle Bros' **TimeOut UltraMacros** and Pinpoint Publishing's **KeyPlayer** are the kinds of programmers who touch-type in assembly language. For them, macro programming is baby talk.

For the rest of us, macro programming is a foreign language. That's why we can't even read the directions for UltraMacros and KeyPlayer. "I'm sure I need macros, but tokens? Is this a toll booth? Strings? Is this like cat's cradle?"

Believe it or not, macros are easy.

#### RECORDING—THE SIMPLE ALTERNATIVE

If you've already bought a macro program, you've probably figured out by now that you can skip writing, or *compiling*, a macro and simply *record* one instead. Recording a macro means that you do something, then teach your Apple II to do it, so that you don't have to do it again. (More on compiling later.) If your checkbook could record macros, for instance, you could balance it once, in January, then let it balance itself in February through December.

But checkbooks can't balance themselves. Maybe you decide, in the absence of a magic checkbook, to teach your spouse or your business partner to balance the books—at least you won't have to do the work. But to teach someone else to balance a checkbook, you'll probably want to write out the steps involved: Get all your canceled checks, add them up, get all the deposit slips, add them up, and so on.

Those steps are your program. To write a program, you have to think like the machine you're writing for: like your partner's mind in the checkbook example, like AppleWorks if you're writing macros. You have to anticipate the information AppleWorks will need, and the mistakes it might make if it doesn't have enough information. You want to make the steps as simple as possible, but, on the other hand, you can't assume that AppleWorks will make even a simple decision correctly.

First decide what you want to do. That's important. You can

— 3156 IS THE MEMORY LOCATION WHERE AWKS KEEPS THE NUMBER OF THE CURRENT FILE: BY STORING IT IN Q, I DONT HAVE TO REMEMBER IT

— THAT'S 12 SPACES OVER, 14 LINES DOWN AND 15 CHARACTERS LONG: IN MY DATA BASE FILE, THAT'S WHERE THE TELEPHONE NUMBER IS

— GETS THE VARIABLE THAT IS THE NUMBER OF THE ORIGINAL FILE

— CLEARS ALL THE STRINGS AND VARIABLES - SO YOU CAN START AGAIN

STRINGS  
\$ 9 IS THE NAME  
\$ 0 IS MY DATA BASE FILE,  
\$ "AALIST"  
\$ 8 IS THE TELEPHONE NUMBER

write a macro to automate any process AppleWorks can do—but only processes that AppleWorks can already do.

Let's say you need the telephone number of someone about whom you're writing an article. When you write, "Randy Brandt, author of UltraMacros, says . . ." you'd like to be able to call and find out what he actually says. You've got his number in a big database file you call AAList, the first AppleWorks database file on your hard-disk drive. You keep AAList on your desktop every day, but you still have to move to the file, look up Randy's name, and then write it down, remember it, or print it to the clipboard for the word processor. It's easier to call directory assistance.

But that's what macros were made for: They replace many keystrokes with one. So you're going to write a program—a macro.

With UltraMacros or KeyPlayer, you could just turn on "record" by entering the appropriate command and typing your macro, but you'll have to re-create it anew every time you turn on your Apple. Recorded macros are too specific, as well. You won't always want to retrieve the same phone number, and AAList won't always be in the same place: The number of menus through which you'll have to escape may vary.

## COMPILING—THE ART OF TRANSLATION

For most jobs, compiling a macro makes more sense. It also means more work—more work than writing your grandmother a thank-you letter, but less work than writing a random-number generator in BASIC.

Begin by thinking out all the details, all the steps your problem requires. Once you've made this list (**Figure 1**), the job's half done. (Programmers might call it a flowchart, but you don't have to be so fancy.)

## ENGLISH TO MACRO

Type your English-language program with the AppleWorks word processor. You'll then translate it into a macro-language version, also with the AppleWorks word processor. Later, UltraMacros or KeyPlayer will *compile* the macro-language version into a machine-language version: translate it into a "lower-level" language—one that's simpler to your Apple but harder for you to understand.

Programming within an AppleWorks file has certain advantages: You know how to edit your program already (you're in the word processor, after all) and it's easy to move macros and parts of macros around. The biggest drawback, on the other hand, is that you have to first write the macro, then compile it. Only then can you try to run it.

It seems cumbersome, especially if you've ever written even a short program in BASIC, where you just enter the lines and type RUN. In UltraMacros you press Open apple-Escape to go to the TimeOut menu, then choose Macro Compiler and answer several questions. With Pinpoint's program, type Solid apple-P to call up the main menu, choose KeyPlayer, then "load a macro file." It's clumsy either way, but keep in mind that you can write

an UltraMacros macro that will take care of the sequence in one fell swoop (**Figure 2**).

Let's use UltraMacros to illustrate a sample "program." Begin by making a new file for your word processor. Call it whatever

```
start
details: which key to define in which modules of AppleWorks
get the "name" you want to look up
copy the "name" to the clipboard
leave word-processor file
enter database file
print
print "phone number" only
select only those records containing the "name"
print the "phone number" report to clipboard
leave database file
enter word-processor file
copy "phone number" report from database file
erase garbage
end
```

*Figure 1. List in plain English the steps your solution will require before you attempt to write a macro.*

```
C:<awp><oa-esc> $0 = "Macro Compiler": find: rtn: rtn:
rtn: rtn: clear>!
```

*Figure 2. This macro sets up access to UltraMacros' Macro Compiler.*

you like; you may want to include "macro" in the name, as in Phone Macro. You're ready to start programming. First you set this file apart from other word-processing files by typing the single word "start." Every macro file starts with the word "start," alone, on a line by itself.

To keep things symmetrical, define the end right now, too. It's simpler than the start; every macro ends with an exclamation point (!). Here's your simple macro:

```
start
!
```

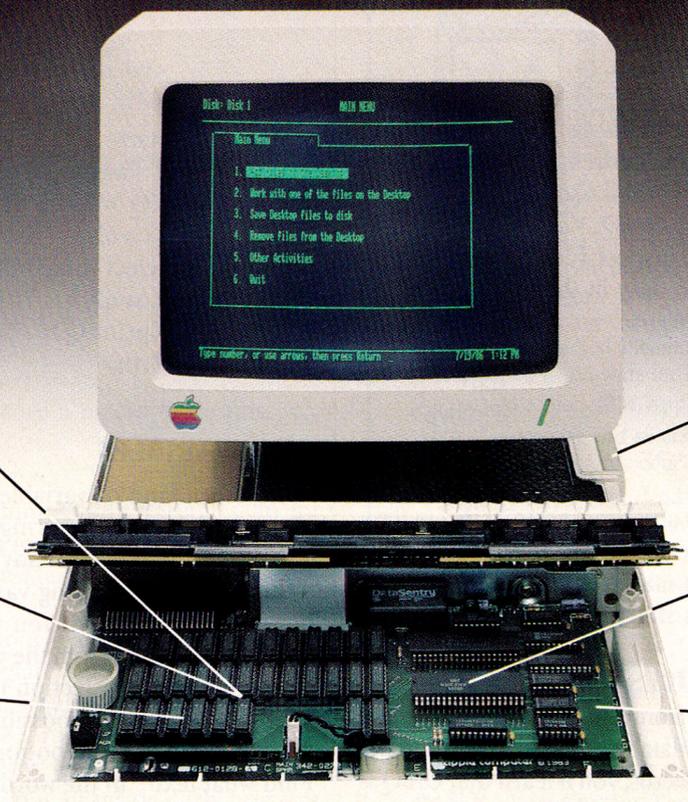
It doesn't do much, but it does have a certain minimal elegance. To make it work, you need to add two *characters*, as they're sometimes called, or *tokens*, if they stand for a keystroke or an "action."

```
start
T:<all>
!
```

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The character *T* is the key you're defining: You'll be defining Solid apple-T to mean "go to the address file and get this person's phone number." The token `<all>` stands for "all types of files"; you also might have used `<awp>`, `<adb>`, or `<asp>`, for word-processor, database, or spreadsheet files. The colon separates tokens. We'll use this macro only in the word processor, so begin by writing:

```
start
T:<awp>
!
```

You don't always need colons (:) and brackets (<>) in a macro, and you also don't need to write each token on a separate line. But I find that it makes reading a macro easier, and the Macro Compiler will make the macro as short as possible anyway.

### THE CHANGING OF THE FILES

The macro we're writing will go from a word-processor file to a database file, do some work in the database file, and return to the word-processor file. If you write macros, you'll learn that OA-Q is an important key combination ("quick change") when you want to go from one file to another. So try this demonstration:

```
start
T:<awp>
<oa-q>
!
```

This macro replaces Open apple-Q with Open apple-T. Compile it and try it. It works, but why bother? This macro has no practical value. It doesn't save time or typing.

You'll be using OA-Q in your final macro to actually save keystrokes as you move around AppleWorks. You want to leave your word-processor file, choose a database file, use it, and return. How can AppleWorks remember where you started?

AppleWorks doesn't remember. But you can force it, with a simple macro command:

```
start
T:<awp>
<Q = peek 3156:>
<print q>
<oa-q>
!
```

The number 3156 is the "memory location" AppleWorks uses to store the current file on the Desktop. The macro above "peeks" (a BASIC command), or looks into, that spot in your Apple's random-access memory (RAM). It stores the value as a *numeric variable* (shades of Algebra I) called Q; in other words, it's a number. Later, you'll use it this way to return to the original file:

```
start
T:<awp>
<Q = peek 3156:>
<oa-q>
select some other file and do some other stuff
<oa-q>
<print Q>
<rtn>
!
```

### MORE VARIABLES

The other kind of variable is a *string variable*. Numeric variables must be numbers; string variables can be numbers, letters, or groups of letters (as many as 60).

The advantage of using variables in a macro is that you can "bypass" the clipboard. You won't spend too many days struggling to put a name from the word processor into the clipboard, then into a record-selection rule in a database file, before you realize the last step's impossible. Try copying from the clipboard with the cursor on the bottom line of the AppleWorks screen: "Find what text?" in the word processor, for example. You can't copy anything into your command line ordinarily. And a *recorded* macro lets you do only the things you can do with your unenhanced AppleWorks. That's another good argument for *compiling* a macro.

You can define a *literal string* several ways; the example below demonstrates three (of a possible six):

```
$0 = "AAList"
$9 = getstr 60
$8 = screen 12,14,15
```

The first is straightforward: It puts the text inside the quotation marks into string zero. The *getstring* token retrieves the word or words you type at a special prompt on the bottom of the AppleWorks screen (60 letters long in this example). Last, and most powerful, you can define a string to be whatever text appears on a certain line of the screen—in this case, in the "Telephone" category of the database file "AAList." The telephone number is 12 characters over from the left of the screen, 14 lines down from the top of the screen, and 15 characters long at most.

The string zero (\$0) has special powers in UltraMacros, as illustrated in the following line:

```
$0"AAList": find
```

If string zero is the name of a file or a ProDOS filename, you can use *find* to select that file without moving the cursor:

```

start
T:<awp>
<$9 = getstr 60>
<Q = peek 3156:>
<oa-q>
<$0 = "AAList":find: rtn>
<$8 = screen 12,14,15>
<oa-q>
<print Q>
<rtn>
!

```

Again, note that you can't record a macro to do this.

### JUST THE DOCS, PLEASE

It's a good idea, when programming with variables, to jot down what they stand for. You can write that information right into the macro file (Figure 3); UltraMacros will ignore it when it compiles the macro.

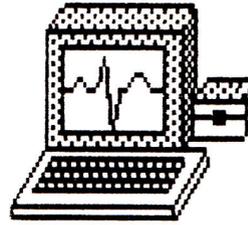
This is part of "documenting" your macro; if you ever share it with a friend, he or she will be glad you did. The other half of documentation is writing down what each line does: Some macho programmers say, "Docs are for wimps," but your friend will truly appreciate it. UltraMacros lets you write as much documentation as you like; just keep it all inside curly brackets (Figure 4).

Q	the number of the file you start with
\$0	AAList, the name of the database file containing the phone number
\$9	the name for which you need a phone number
\$8	the phone number

Figure 3. Keep track of your variables within your macro file.

start	{identifies the file as a macro file}
T:<awp>	{this is Solid apple-T, works in the word processor}
<\$9 = getstr 60>	{get the name from the user}
<Q = peek 3156:>	{record the name of the current file}
<oa-q>	{to the "Desktop Index"}
<\$0 = "AAList":find: rtn>	{find AAList}
<\$8 = screen 12,14,15>	{put the phone number into a string}
<oa-q>	{to the "Desktop Index"}
<print Q>	{print the name of the original file}
<rtn>	{go to it}
!	{stop}

Figure 4. Document each line of your macro.



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## THE DIRTY WORK

All that remains is a two-step procedure to make sure the phone number is in the right spot on your screen. First make sure the database file AAList is in single-record layout because you're going to program those screen positions into your macro. Use OA-Z to zoom out on your format. (You can write a macro to do this if you prefer.) Next select the right records with this part of the macro (Figure 5):

```
<oa-R>N8<rtm>7<rtm print $9 : rtn esc $8 = screen 12, 14, 15>
```

It shouldn't be hard to follow: This section selects all records in the AAList containing the name stored in string nine (\$9). N is the answer to the question AppleWorks sometimes asks, "Select all records?" The name is the eighth item in our database file of addresses (8); it would probably be the first in yours. The numeral 7 makes sure you get the entry that "contains" rather than "equals" the name; again, be careful to always type the name exactly and save yourself a step.

The only new token here is <print>. It does just that. UltraMacros can print string nine anywhere on screen—in this case, in answer to the prompt, "Type comparison information." You have to use <print> again when you return to the original word-processor file (AppleWorks neatly returns the cursor to just the spot where you last had it) to print the telephone number:

<print \$8>

start	{identifies the file as a macro file}
T:<awp>	{this is Solid apple-T, works in the word processor}
<\$9 = getstr 60>	{get the name from the user}
<Q = peek 3156:>	{record the name of the current file}
<oa-q>	{to the "Desktop Index"}
<\$0 = "AAList":find: rtn>	{find AAList}
<oa-R>N8<rtm>7<rtm print \$9 : rtn esc \$8 = screen 12, 14, 15>	{get the number}
<\$8 = screen 12,14,15>	{put the phone number into a string}
<oa-q>	{to the "Desktop Index"}
<print Q>	{print the name of the original file}
<rtn>	{go to it}
<print \$8>	{print the phone number}
<clear>	{empty all variables}
!	{stop}

Figure 5. Final macro.

## CHANGES

You've got a working macro. The final step, <clear>, makes all variables fresh again, so that you can search for the next person's telephone number without trouble (Figure 5).

Getting started with macros isn't all easy: This is programming, not a walk in the park. We started with the natural inclination to use the AppleWorks clipboard to move names and numbers from one file to another. We quickly learned that UltraMacros string commands are easier. We first wanted to be able to highlight the person's name in the word-processor file, type Open apple-T, and have the phone number appear. That proved too difficult. Programming is a compromise between you and your Apple, between what you want and what it can do.

You may realize you're not getting the most from this macro. After all, why limit it to word-processor files? Change <awp> to <all> for a neat way to link two database files with the same information. You can use more text strings and rewrite the macro to print names and addresses in either word-processor or spreadsheet files. And all without using a single if/then statement. (UltraMacros can handle if/then logic flawlessly, but logic isn't a foreign language to nonprogrammers. Strings are, so they present a more difficult challenge to budding macro programmers.)

A computer program is never "finished." Sit down and program a macro on your own, or just change this one or one of the examples on your UltraMacros disk. You'll find you respect "real" programmers more than you did when you were a software buyer—and you'll complain less about "revisions" and "new versions."

If you enjoyed writing this "program," you may want to try other powerful macros. Randy Brandt, author of UltraMacros, has put together a disk of **UltraMacros Macro Tools**, containing 150K of sample macros. "It's pretty powerful stuff," Brandt says, "and we documented it extensively so that users can see how each macro works." You might also log onto the Beagle Bros electronic bulletin board at (619) 452-5565 for tips on macro programming. ■

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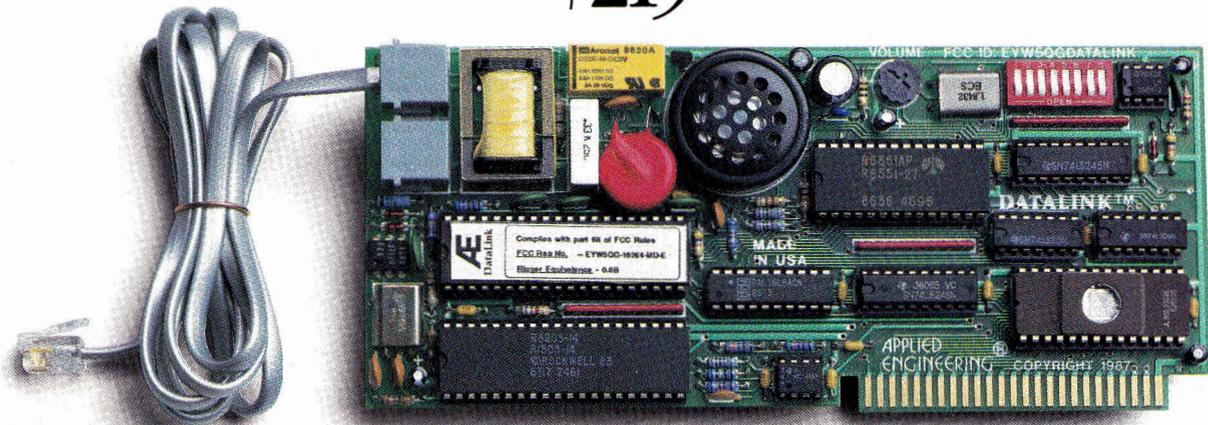
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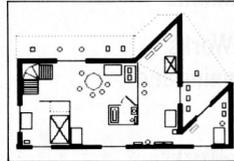
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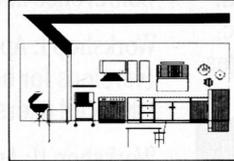
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# PC Transporter:

## The Best of Both Worlds?

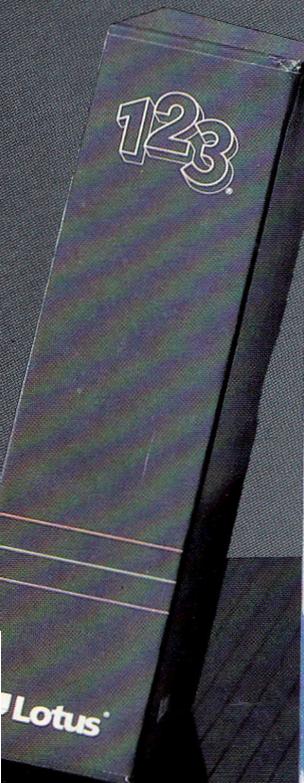
*It's ingenious—PC Transporter puts an IBM clone on a card and makes MS-DOS software II-compatible.*

by Eric Grevstad

**D**arned if the thing doesn't work. Applied Engineering's **PC Transporter**, an add-in card that lets a II Plus, IIe, or IIGS run MS-DOS programs, has finally arrived, half a year after previews of handmade prototypes, a year and a half after *inCider* first reported on some ex-Apple engineers building a board called "Little Blue," five years since the first issue of *inCider* mentioned plans for an MS-DOS coprocessor. Apple owners can still debate the broader issue of loyalty to the II versus a seat on the IBM bandwagon, but they can now debate over hardware instead of vaporware—and PC Transporter is ingenious hardware.

This won't be a rave review. Like other coprocessors and computer brain transplants, PC Transporter isn't as simple as a plug-in memory card. Its advertised claims of running three times faster than an IBM PC are slightly exaggerated. The claim that it's only one-third the price of a comparably equipped PC clone is definitely exaggerated.

But the card performs amazingly well, running MS-DOS programs, coexisting with Apple hardware—working beautifully with a IIGS keyboard and RGB monitor, struggling heroically to work with Apple disk drives. Once you set it up and get to know its friendly control-panel and file-transfer software, PC Transporter is almost the best of both worlds. Call it the best of one and the next best of the other.



Apple fans who long for MS-DOS software (such as the integrated applications package Lotus 1-2-3, shown above) can turn their IIs into IBM clones with PC Transporter.

## HARDWARE THAT WORKS

Basically, PC Transporter is a clone on a card: a CPU, disk-drive controller, video controller compatible with IBM's CGA (Color/Graphics Adapter), keyboard and other input/output circuitry, and up to 640K of random-access memory (RAM) in MS-DOS mode on the largest Transporter model. Another 128K on the Transporter card is system RAM holding video memory and the BIOS (basic input/output system) code. The card fits into one of the Apple's seven expansion slots (except slot 3), where ProDOS sees its memory (up to 768K) as a RAM disk, like Apple's IIe memory card or Applied's RamFactor.

PC Transporter is a rival to home PC compatibles, not the latest Intel 80286- or 80386-powered business models. It can't run the new OS/2 software being developed for such systems, or support the sharper, more colorful EGA (Enhanced Graphics Adapter) or VGA (Video Graphics Array) displays now replacing the old CGA standard.



*PC Transporter makes efficient use of Apple keyboards, especially the GS', for a smooth transition to MS-DOS software.*

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24-Jul	588.13

On the other hand, its NEC V30 processor works like Intel's 8086, not the less efficient 8088 of the original PC, and runs at a higher clock speed (7.16 versus 4.77 megahertz). Few low-cost clones can keep up with PC Transporter: It proved between two and two and a half times as fast as a PC in *inCider's* MS-DOS spreadsheet, word-processing, and other benchmark tests, and almost three times as fast with one graphics program.

Installing the card in a IIGS takes no more than twice the advertised 15 minutes. The manual's cryptic "QuickStart Installation Guide" may frighten you, but the "Step-by-Step Guide" and the detailed chapters that follow it will reassure you. Besides putting the card into a slot, you must attach several cables from an **installation kit** (\$49 for the GS, \$39 for the IIe or II Plus).

Two cables run from the card to the Apple's rear panel—a 19-pin disk-drive connector and a video cable for composite video, digital RGB (MS-DOS only—keep your old monitor for Apple software unless you already have the required digital-RGB adapter card installed), or analog RGB. That last option, for the GS color monitor, involves a second circuit board called **ColorSwitch**. Both PC Transporter and your GS monitor plug into this card, while a cable from the ColorSwitch plugs into the GS' own RGB port. The PC Transporter hookups are easy, though screwing new disk and video connectors into the Apple's backplane can be a chore.

Apple IIe and II Plus owners must also plug a speaker or audio cable into the motherboard. Another motherboard cable lets PC Transporter use the IIe keyboard; II Plus owners must buy a **cable** (\$34) and **IBM-style keyboard** (\$139).

Keyboard sharing, particularly on the GS, is one of PC Transporter's most successful features. The Apple cursor arrows become IBM cursor arrows; the open-apple key becomes the PC's Alt key. The solid-apple or option key shifts the numbers 1 through 0 to function keys F1 through F10, with tricks such as Solid apple-N for Num Lock or Solid apple-B to turn the next press of a shift key into the equivalent of pressing both IBM shifts (used by a few programs such as SideKick).

Under MS-DOS, the GS keypad (not the platinum IIe keypad) functions both as a numeric pad and as Home, End, PgUp, and PgDn controls. (On the IIe, as on many MS-DOS portables, these controls require awkward shifting.) It handles the Shift- and Alt-keyboard commands that stump several PC compatibles, missing only one obscure program's three-key Alt-Plus-Minus sequence in *inCider's* tests.

## MIXED DISKS

PC Transporter's use of the Apple keyboard and video is brilliant, but it's less triumphant using Apple disk drives. That's not Applied Engineering's fault; PC Transporter does an impressive job accommodating different formats and coding methods. Still, there are several points to note:

- The MS-DOS world is making the same transition in disk size as the Apple world: You'll want a roomier, superior 3½-inch (720K) drive, but you'll almost certainly need a 5¼-inch (360K) drive, too. New MS-DOS software is available on 3½-inch disks, but owners using other packages

or bringing work home from the office need 5¼-inch capability. (And those are only two of the four current MS-DOS formats; PC Transporter doesn't support 1.2-megabyte, 5¼-inch PC AT drives or 1.44-megabyte, 3½-inch PS/2 drives.)

- While PC Transporter can use an Apple 3.5 Drive as a 720K MS-DOS drive, turning a single-sided, 143K, 5¼-inch Apple drive into a double-sided, 360K unit is beyond its powers. Unless all your MS-DOS system, program, and data disks are in 720K format, you'll have to buy a **360K, 5¼-inch drive** from Applied (\$269 for one, \$399 for two).

- Your Apple can't boot from a drive connected to PC Transporter, although, under Applied's patched ProDOS 8 1.4, it sees the Transporter RAM disk and one drive attached to it as two ProDOS devices in the Transporter's slot. (See p. 118 in the Transporter manual.) If you have a IIGS with one Apple drive of each size and don't buy an MS-DOS 5¼-inch drive, you can attach the Apple 3.5 Drive to the PC Transporter for MS-DOS, with the 5¼-inch as your only Apple boot drive. To run ProDOS 16, you must unplug the 3.5 from one controller and connect it to the other.

It sounds worse than it works. PC Transporter controls up to four drives—the MS-DOS boot drive connected to it plus others either daisy-chained there or controlled from Apple slots. Pop-up Control Panel software, available anytime within MS-DOS (hold down the shift key and press Caps Lock twice), lets you change the current configuration or save a default, as well as exit to ProDOS or view a keyboard map. The Control Panel prompts you to reboot MS-DOS if you make configuration changes. (Adding or subtracting drives on the fly can understandably, and disastrously, confuse the operating system.)

IBM-type 5¼-inch drives and the Apple 3.5 Drive use MS-DOS disks without a hitch, though a 720K disk formatted by an Apple 3.5 isn't guaranteed to work with other computers. (The reverse isn't true; in *inCider's* tests, disks created with a Toshiba T1000

Slots		Devices	
SLOT	CARD	CON = #0307, #0305	
3	APPLE 80 COLUMN CARD	CLK = #0000, #0000	
5	DISK II CONTROLLER	PRN = #1	
6	SMARTPORT	LPT = #1	
		COM = #2	
		AUX = #2	
		PIPE = /RAM/	

Ram Usage		OnLine	
Program workspace :	#0000 [33584 bytes long]	R :	S3 D2 /RAM
Protected area :	#9300 [11520 bytes long]	A :	S6 D1 /COMMAND
-Environment area :	#930A [ 102 bytes long]	B :	S6 D2 N/A
-System buffers :	#9400 [ 1536 bytes long]	C :	S5 D1 N/A
-System workspace :	#9400 [ 9728 bytes long]	D :	S5 D2 N/A

## COMMAND.COM: ProDOS in PC Pinstripes

If you can't afford PC Transporter, you can put an A> prompt on your Apple's screen for \$69. Pinpoint Publishing's COMMAND.COM (named after an MS-DOS system file) is a software shell for the IIC, enhanced IIE, or IIGS that gives ProDOS 8 the look of the PC operating system. Like Kyan Software's KIX (see review, January 1987, p. 118), it replaces menus and mice with a typed command-line interface, but uses the syntax of MS-DOS instead of Unix. COMMAND.COM is great for students who want to use Apples to learn PC commands, and it's also a first-class utility package and file manager.

COMMAND.COM replaces cumbersome ProDOS prefixes such as /MY.DISK/BASIC/GAMES with drive letters such as A: and B:, and lets you manipulate files by typing commands with single or multiple (wildcard) filenames. While logged onto a 5¼-inch drive, you might type DEL BUDGET.SS to erase a spreadsheet file, then COPY C:\*.LETTER B: to back up some word-processing documents from your RAM disk to a 3½-inch disk.

The DIR command shows a disk catalog; MD, CD, and RD let you create, navigate, and remove subdirectories. Running a program is as simple as typing its name and pressing Return, with no RUNs, BRUNs, or hyphens. A PATH command lets you run a program on a different drive or directory; a WHEREIS command searches for files. Anyone who's plodded through System Utilities menus to make a new boot disk, specifying a slot and drive to format and copying ProDOS, will like the FORMAT -S command.

Like MS-DOS, the system combines internal commands

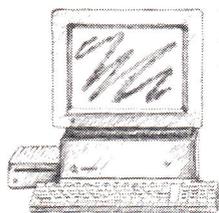
kept in memory with external ones, small programs loaded from disk. There are a lot of the latter, including a detailed help system (the manual wisely advises you to go for coffee while copying the complete package to your work disk), and they can slow COMMAND.COM's pace. A hard disk would be nice; a battery-backed RAM disk would be better.

But some COMMAND.COM functions surpass the originals, imitating not only plain MS-DOS commands but fancy packages such as the Norton Utilities: commands to map disk space, encrypt a file, change its filetype, or wipe out its contents as well as delete its directory entry. The TYPE command, like MS-DOS', shows text files but chokes on binary characters, so there's a LIST command for AppleWorks or program files and a SHOW command for certain graphics files. You can not only combine commands with logic branches and user input in batch files, but assign multiple functions to new commands or keywords, then save and load sets of these as "environments." Extension programs such as XTERM Communications Environment and the COMMAND.COM Toolkit for programmers are available from the developer, Hyperdyne Software (P.O. Box 641156, Chicago, IL 60664-1156, \$24.95 each).

Not every command and keystroke is identical to MS-DOS. Devoted GS Finder or ProSel users may not be tempted to switch; Pinpoint says you can launch COMMAND.COM from its program selector, RunRun, which is like buying a second car to jump-start your first. But COMMAND.COM is a useful, enjoyable implementation of the MS-DOS interface. □

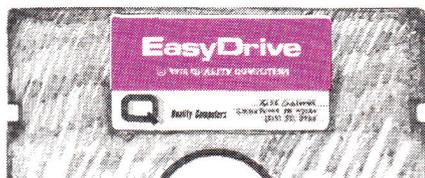
—E.G.

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moved between Toshiba and Transporter perfectly. The Toshiba loaded files from Apple-born disks, saved files on some, but produced a "sector not found" error when writing a new directory to one.) One generic version of MS-DOS 3.2 created 360K disks, not 720K disks, in the Apple drive, but IBM PC-DOS 3.2 and Datavue Spark MS-DOS 2.11 both worked fine.

You can also format a ProDOS RAM disk, a UniDisk 3.5, or Apple 5 1/4-inch drives for MS-DOS storage. You have to format the floppies with ProDOS before MS-DOS, which reported bad sectors galore but allocated 133K of file space.

More impressive yet is PC Transporter's support of a fifth drive—a file of your specified size on a ProDOS hard disk or even an Apple 5 1/4-inch disk. This ordinary-looking ProDOS file (type \$6F if you catalog it) is actually a volume containing multiple MS-DOS files or programs. You must first create such a file with the Control Panel, then prepare it with the MS-DOS hard-disk command FDISK. Playing with this feature on a ProDOS RAM disk or doing a post-FDISK format, a habit required with real MS-DOS hard disks, produced occasional crashes during *inCider's* tests as we called and exited the Control Panel. The option should be a boon to hard-disk owners, however.

### BOOT AND REBOOT

Transporter's near-magic is easy to manipulate. Your Apple works as an Apple just as before, until you execute the ProDOS program AEPC.SYSTEM, which passes control to PC Transporter, loads the BIOS and Control Panel software, and boots your PC system disk. (There's one expense not mentioned in Applied Engineering's ads: about \$100 to shun piracy and buy a legal copy of MS-DOS.) From then on, you're part of the PC universe.

Trying Lotus 1-2-3, Framework II, WordStar Professional 3.31 and 4, XyWrite III Plus, Compaq benchmark programs, the VDISK RAM-disk driver, the Norton Utilities, a Pac-Man-type game, Words & Figures, Instant Pages, and Multiple Choice (a memory-partition program that crashes some clones), *inCider* found PC Transporter terrifically PC-compatible. Neither it nor any non-IBM machine can run IBM's partly ROM-based BASIC, but generic GW-BASIC runs fine.

The system can be a little sluggish switching from text to graphics screens or popping SideKick's menu over another program, but its CGA graphics look great on the IIGS monitor. PFS:First Choice appeared to crash when it paused for 30 seconds while loading, but it then restarted the disk, finished loading, and ran successfully.

The package includes some useful MS-DOS utilities, from one that reads the ProDOS clock to a driver that lets an Apple mouse control Microsoft or Mouse Systems software. (It worked with PFS:First Choice and Microsoft Word 4.0, though some keyboard shifts are required—PC mice have two or three buttons to Apple's one.) Other drivers use GS serial ports or Super Serial Cards as MS-DOS ports COM1 or COM2. One combination lets MS-DOS software see a serial ImageWriter as an IBM Graphics Printer connected to a parallel port.

Finally, there's an MS-DOS program called Transfer, which

can catalog ProDOS volumes on line and copy files between systems (say, from your 3½-inch MS-DOS disk to a 5¼-inch ProDOS disk). Plain-vanilla ASCII or DIF files, of course, are more usable on arrival than files filled with AppleWorks or Lotus 1-2-3 control codes; Transfer can add or subtract the linefeeds MS-DOS combines with ASCII carriage returns. It works beautifully in both directions. You can write with an MS-DOS word processor and produce an AppleWorks file by way of ASCII.

### IS IT RIGHT FOR YOU?

PC Transporter is a technical *tour de force*. The shadows that loom over its potential audience aren't technical but economic—the fat shadow of King Kong Bundy selling PC clones for \$995. Few Apple owners really need MS-DOS; some who do will want more power or expandability, and some others don't have enough Apple hardware to fulfill PC Transporter's potential.

As good as PC Transporter is, the chore and cost of buying both IBM-style drives and keyboards should tempt II Plus owners to go ahead and buy a whole IBM (or Tandy, Epson, or whatever) instead. IIE owners can keep their keyboards, but face a truly tough decision—PC Transporter or a GS upgrade, both costing about the same.

The ideal PC Transporter scenario is to have a IIGS with analog RGB monitor, buy one of Applied Engineering's 5¼-inch PC drives, and either switch your Apple 3.5 Drive between connectors or have one for ProDOS and one for PC Transporter. You'll save at most \$200–\$300 over a PC clone; that's enough to offset the disk-drive compromises, but not enough to offset sacrificing internal modems, expanded-memory cards, EGA adapters, and other options for PC clones' expansion slots.

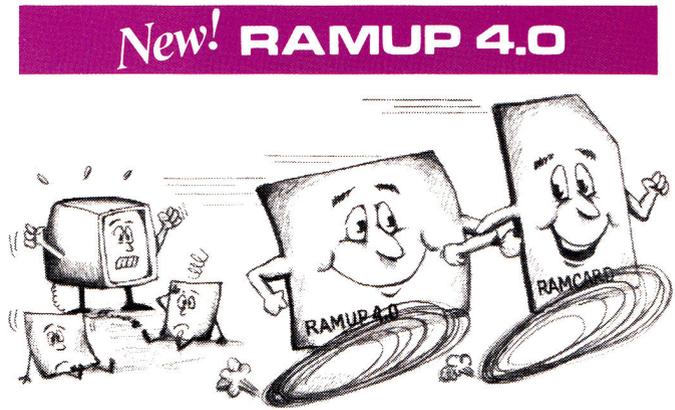
But you'll have a technically neat, switch-hitting machine, access to three software universes (II, IIGS, and MS-DOS), and painless transfer of generic data files between ProDOS and MS-DOS. It's not a universal solution for every Apple owner, but PC Transporter is a remarkable success. ■

*Eric Greystad, inCider's former review editor, is now a free-lance journalist. Write to him c/o inCider, 80 Elm Street, Peterborough, NH 03458.*

## Product Information

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# Resume On File

Put AppleWorks' word processor to work as you set up an attractive résumé.

by Ruth K. Witkin

As somber-faced Jack Webb said in the classic television series *Dragnet*, "Just the facts, ma'am," meaning cut out the banter and get to the details. The same applies to résumés.

In this session, you'll create the résumé shown in **Figure 1**. It's the first in a job-hunt trilogy that continues next month with a database of prospective employers and winds up in August with a cover letter that mail-merges with the records in the database.

## A DOCUMENT FROM SCRATCH

Use the AppleWorks Startup and Program disks to bring up a new word-processor screen. Name this file **RESUME**. You should now see the Review/Add/Change screen with the cursor in line 1 column 1.

Press OA-Z to keep blots (hard carriage returns) and printer options visible and refer to the bottom line of your screen to see the line number on which you're working. Now enter the text according to the instructions in the **Table**. Proportional spacing produces dense text. To give the résumé a more airy look, press the spacebar *twice* between sentences. If you make a typo, press the delete key to back up the cursor and erase.

When you run out of instructions in the **Table**, enter the rest of the text shown in **Figure 2** in the same way. When you're finished, your cursor should be on line 65 column 28.

Before moving on, proofread everything to make sure it agrees with **Figure 2**. If something's amiss, move the cursor to that spot. You can then type a missing

JAMES ROCKLAND  
1234 Camp Grounds Drive  
Abner NY 11161  
516-555-0505

DIRECTOR OF TECHNICAL OPERATIONS

CAREER OBJECTIVE

To join an organization where I can use my technical and managerial experience, education, and abilities in the telecommunications industry.

EXPERIENCE

FIELD SERVICE MANAGER  
Canary Corporation, Abner NY 11162  
June 1984 to Present

Responsible for supervising technicians installing and maintaining digitized test equipment, and instruct employees in handling complex maintenance schedules and assign personnel to departments on problems encountered with systems. Supervise generation of test procedures, and ensure that test results are consistent with planned output and growth. Member of Operations Committee, Abner in 1985.

Tested and evaluated IMS (Information Management System) equipment at customer sites. Designed complicated electronic and transmission circuitry. Updated board components including switches, PROMS, and microprocessors. In Test Laboratory, assisted in the evaluation of technical experiments. At industry trade shows, demonstrated new products and processes.

EDUCATION

DELPHI UNIVERSITY, Northville NY. Currently attending, with Bachelor of Science degree expected in May, 1990. Majoring in Communications Technology and Management, with minor in Systems Design.

MILBAR COMMUNITY COLLEGE, Milbar NY. Associate degree in Technical Management, 1985. Coursework included microprocessors, BASIC programming, operational amplifiers, digital equipment, and analog circuitry. GPA: 3.4/4.0.

INTERESTS AND ACTIVITIES

I've owned a personal computer since 1985, and am adept at computer-aided design (CAD), word processing, and spreadsheets. I also enjoy auto repair and carpentry.

References are available upon request. Please do not contact my current employer.

Figure 1. Résumé created with AppleWorks word processor.

character, press Delete to erase an extra character, or, after you press OA-E to change to the overtyping cursor, overtype an existing character.

When all is well, press OA-S, and relax while AppleWorks carefully saves your file.

Turn on your printer to see what this document looks like before formatting. (It will print on two pages.) Press OA-P to start the Print command. Press Return to confirm *Beginning*. Press Return again to confirm the printer (or type a printer number, then Return), and hit Return again to confirm one copy. The printer whirs, and here's the résumé. On lines 55 and 67 you can see page indicators

where AppleWorks calculated the page breaks.

## FORMATTING THE DOCUMENT

Formatting can turn these lines of lifeless text into sheer excitement. Press OA-1 to jump the cursor to line 1 column 1, so that you can create the margins that frame the text.

Press OA-O to bring up the Printer Options screen. First, set the left and right margins: Type **LM**, and press Return. Type **.7** and press Return again. Type **RM**, hit Return, then type **.7** and hit Return again. Now for the top and bottom margins: Type **TM** and press Re-

Line#	Action
1	Type <b>JAMES ROCKLAND</b> (or your own name, if you prefer) and press Return. The cursor moves to line 2.
2	Type <b>1234 Camp Grounds Drive</b> (or your own street address) and press Return. The cursor moves to line 3.
3	Type <b>Abner NY 11161</b> (or your city, state, and zip code) and press Return. The cursor moves to line 4.
4	Type <b>516-555-0505</b> (or your phone number) and press Return three times to end the paragraph and insert two blank lines. The cursor moves to line 7.
7	Type <b>DIRECTOR OF TECHNICAL OPERATIONS</b> and press Return twice to end the paragraph and insert a blank line. The cursor moves to line 9.
9	Type <b>CAREER OBJECTIVE</b> and press Return twice. The cursor moves to line 11.
11	Referring to <b>Figure 2</b> , type the entire paragraph starting with <b>To join an organization where I...</b> At the end of the paragraph, press Return twice. The cursor moves to line 15.

*Table. Entering text of résumé.*

turn. Type **.6** and press Return. Now type **BM**, hit Return, then type **.5** and hit Return again.

There's nothing magical about these margins. Simply experiment with the numbers until you get the result you want—an attractive résumé that fits on a single page.

To further enhance its appearance, print the résumé in a proportional-2 font, which gives each character—narrow “i,” intermediate “e,” and wide “m”—only the width it needs, unlike a non-proportional, monospaced font in which each character gets the same width. While you're in the Printer Options screen, type **P2** and press Return. Note, though, your

```

JAMES ROCKLAND
1234 Camp Grounds Drive
Abner NY 11161
516-555-0505

DIRECTOR OF TECHNICAL OPERATIONS

CAREER OBJECTIVE

To join an organization where I can use my technical and
managerial experience, education, and abilities in the
telecommunications industry.

EXPERIENCE

FIELD SERVICE MANAGER
Canary Corporation, Hazelette NY 11812
June 1984 to Present

Direct the activities of field service technicians
installing and maintaining digitized telephone switching
systems. Assist and instruct employees in handling complex
problems. Develop installation and maintenance schedules
and assign personnel to customer sites. Interface with
other departments on problems encountered with systems and
schedules. Specify test equipment and supervise generation
of test procedures. Develop staffing and budgetary
requirements consistent with planned output and growth.
Supervise and train departmental clerical personnel. Member
of Operations Committee. Promoted from Senior Field Service
Technician in 1985.

FIELD SERVICE TECHNICIAN
Telephones Galore, Inc., Milbar NY 12044
May 1982 to June 1984

Tested and repaired digitized IMS (Information Management
System) equipment at customer sites. Analyzed complicated
electronic and transmission circuitry. Updated boards with
new components including switches, PROMS, and
microprocessors. In Test Laboratory, assisted in the
evaluation of technical experiments. At industry trade
shows, demonstrated new products and processes.

EDUCATION

DELPHI UNIVERSITY, Northville NY. Currently attending, with
Bachelor of Science degree expected in May, 1990. Majoring
in Communications Technology and Management, with minor in
Systems Design.

MILBAR COMMUNITY COLLEGE, Milbar NY. Associate degree in
Technical Management, 1985. Coursework included
microprocessors, BASIC programming, operational amplifiers,
digital equipment, and analog circuitry. GPA: 3.4/4.0.

INTERESTS AND ACTIVITIES

I've owned a personal computer since 1985, and am adept at
computer-aided design (CAD), word processing, and
spreadsheets. I also enjoy auto repair and carpentry.

References are available upon request. Please do not
contact my current employer.

```

*Figure 2. Résumé text before formatting.*

printer may not support proportional spacing. (Many letter-quality printers don't.) Be sure to check your user's manual, and omit this step if it doesn't apply to your printer.

You're still in the Printer Options screen, so have AppleWorks center the name, address, phone number, and the

titles **DIRECTOR OF TECHNICAL OPERATIONS** and **CAREER OBJECTIVE**. Type **CN** and press Return. Now press the escape key to exit the Printer Options screen.

To remove the centering and return the running text to normal, you need to tell AppleWorks to justify. This also

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Load/Save AppleWorks™ files	Y	N	N
Editor commands	42	12	14
Set page margins	Y	N	N
Print formatting commands	Y	N	N
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Circle 123 on Reader Service Card.

spaces the running text so that it prints with a smooth right edge, a professional touch. Move the cursor to line 17 column 1. Press OA-O. Type JU and press Return. Now press Escape.

## USING THE CLIPBOARD TO JUSTIFY AND CENTER

Refer to Figure 1 again. Section titles are centered but text isn't, which means you'll need to center and unjustify several times. A neat technique can make this kind of formatting a breeze. Instead of going through the Printer Options screen each time, simply copy the justified format to the clipboard, then copy it into the résumé wherever you want it.

Press the up-arrow key to move the cursor to the *Justified* indicator. Press OA-C to start the Copy command, type T to select *To clipboard*, and hit Return.

Now copy the indicator to the other places that need it. Place the cursor on line 23 column 1. Press OA-C and type F to select *From clipboard*. Instantly, AppleWorks inserts the indicator into the résumé. Next, place the cursor on line 51 column 1. Press OA-C and type F. And finally, place the cursor on line 62 column 1. Press OA-C and type F.

Now use the same technique to center the titles. Press OA-2, then the up-arrow key three times to move to the *Centered* indicator. Press OA-C to copy, type T to select *To clipboard*, and hit Return.

Now copy the centering from the clipboard. Place the cursor on line 21 column 1. Press OA-C and type F. Next, place the cursor on line 50 column 1. Press OA-C and type F. And finally, place the cursor on line 62 column 1. Press OA-C and type F.

## BOLDFACING

Boldfacing will make titles really stand out. Press OA-2, then up arrow twice to move the cursor to line 7. Hold down the control key and type B. A caret appears before the name. Move the cursor atop the caret and look at the message line, where AppleWorks displays the meaning of the caret. It's not necessary to end boldface because it cancels itself at the end of the line.

Move the cursor to line 13. Hold down the open-apple key, and press the left arrow to move to the beginning of the

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## DEVELOPER OF GAS SAVER AWARDED \$22,000

text. Now boldface it: Hold down Control and type **B**. Making sure the cursor is always *on or before* the first character of text, boldface the text in the following lines: 15, 22, 25, 39, 51, 54, 58, and 63.

Now move the cursor to line 54 column 19. In other lines, boldface stopped at the end of the line. This time, you want it to stop at the end of the school name. There's no shortcut key for Boldface End, so press OA-O to enter the Printer Options screen. Type **BE** and hit Return. Press Escape to return to the résumé.

Press the left-arrow key to move the cursor to the Boldface End caret. (Again, you can see its meaning on the message line.) You need to stop boldface after the other school, MILBAR COMMUNITY COLLEGE. Instead of using the Printer Options screen again, you can use the clipboard as you did with the Justified indicator. Press OA-C, then type **T** and hit Return. Place the cursor on line 58 column 26. Now copy from the clipboard: Press OA-C and type **F**.

Formatting is complete and printing is at hand, so be sure your printer is turned on. Press OA-P to start the Print command. Press Return three times—once to confirm *Beginning*, again to select your printer, and again for one copy. Your résumé (assuming you used the same name as in the example) should now look like the one in **Figure 1**. Press OA-S to store it on disk.

### MANY THANKS

Thanks to those of you who responded to the income-tax question in "From My Mailbag" (AppleWorks in Action, March 1988, p. 90). I was deluged with solutions, and am currently developing a column on that topic alone. ■

*Ruth K. Witkin is a consultant in computer applications for business. Her published works include the template disks and handbooks Success with AppleWorks I and II (inCider, IDG Communications/Peterborough), Managing with AppleWorks (Howard W. Sams & Co.), and Personal Money Management with AppleWorks (John Wiley & Sons). She is currently working on Success with AppleWorks III. Write to her at 5 Patricia Street, Plainview, NY 11803. Enclose a stamped, self-addressed envelope if you'd like a reply.*

BOSTON — With the oil glut worse than ever and OPEC ringing its hands, the Federal Courts have awarded a fee of \$22,747 to National Fuelsaver Corporation of Boston, developers of the Platinum Gasaver.

The Gasaver, which takes only 10 minutes to install, releases microscopic quantities of platinum into the air-fuel mixture entering the engine.

Platinum has the unique ability of making unburnt fuel burn. With platinum in the flame zone, you increase the percentage of fuel burning in the engine from 68% to 90%.

Normally, that 22% of the fuel would only burn if it came in contact with the platinum coated surfaces of a catalytic converter. Unfortunately, this converter process takes place outside of the engine, where the energy produced is lost.

With the Gasaver dispensing platinum into the combustion chambers, 22% more of each gallon burns inside the engine so that 22% fewer gallons are required to drive the same distance.

The process works on both leaded

and unleaded gasoline, and meets the emission standards of all states.

In concluding the government's five-year administrative procedure studying the Gasaver, the Federal Court stated: "National Fuelsaver Corp. and various independent parties have used a variety of methodologies to test the value of Gasaver. These independent parties often make stronger claims for the Gasaver than does its developer, National Fuelsaver Corp."

The government had already confirmed in 1984 that the Gasaver raises the octane of gasoline, eliminating the need for premium fuel.

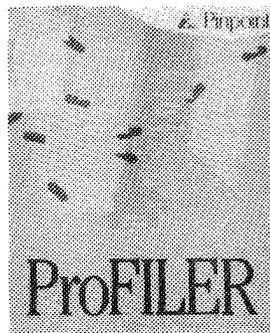
Joel Robinson, the developer, commented: "We've already sold over 100,000 Gasavers. Ironically, we find more people buy the Gasaver for its third benefit of cleaning out carbon to extend engine life than buy it for its fuel savings or octane boosting."

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## Software for Young Storytellers

*Programs that stretch the imagination and inspire storytelling help kids write happily ever after.*



by Cynthia E. Field, Ph.D.

Everybody loves a good story, especially those that kids create. I don't mean the "stories" older kids make up to cover themselves when they come home late from school or miss a curfew. Although those can be quite entertaining, I'm referring instead to youngsters' more literary efforts.

I've discovered five programs that can help stimulate your children to create their own short stories in poetry, prose, or even in rebus form. The versions tested require only 48K—every Apple II model's included. A couple of programs even print graphics—in color!

### COTTON TALES

This innovative program from Mindplay captures the essence of desktop publishing for elementary-school storytellers and preschool poets. With its colorful screen display (a color monitor is recommended) and hopping-bunny cursor, the program offers children aged 4-8 the opportunity to communicate—even if they're at a temporary loss for words.

How? With a built-in Picture Dictionary. The child chooses a graphics category such as Holidays, Animals, or Action from the simple-to-use picture menu at the bottom of the screen. After selecting a category, the child scans illustrations of a firecracker, a party hat, a frog, a deer, a swimmer, a runner—or any of nearly 200 other graphics.

If a child knows how a word sounds but isn't quite sure of the spelling, or isn't ready to learn to type at the keyboard, Cotton Tales offers a built-in vocabulary list. Choosing words is as easy as choosing pictures, thanks to Cotton Tales' friendly user interface.

A Typing option allows older children—or precocious younger ones—to compose without assistance from the program's word list or to transcend it by using words from their own expanding vocabularies. With Cotton Tales' flexibil-

ity, your child writes fiction or nonfiction, such as a letter to a friend, by mixing the program's clip art and "clip words" creatively and by typing his or her own words.

Your child can print Cotton Tales poems, stories, or rebuses on a number of Apple-compatible printers, including the ImageWriter II with color ribbon.

Like other Mindplay programs, Cotton Tales offers Challenge Upgrade features that help parents customize the program to suit a child's level of development. Challenge Upgrade is a fine way to tailor the program to appeal to children of different ages and abilities in the same family.

### KIDWRITER

Kidwriter is a software classic. Although it lacks some of Cotton Tales' more sophisticated features, Kidwriter has other strengths. For one, the program offers built-in scenes such as Farm, Theatre, and Outer Space. Any of these can set the stage for creative-writing fun for children aged 6-10.

Like Cotton Tales, Kidwriter offers built-in illustrations (99 in all) that include everyday objects such as cats and dogs as well as shapes and numerals. One attractive feature is that kids can "color" each illustration in purple, orange, blue, or green. Another nice touch is the ease with which a child can change an object's size.

Kidwriter splits the monitor screen horizontally. The scene your child creates is displayed above the typing area. Unlike Cotton Tales, the program can't help a child in the clip-word department—there's no built-in word dictionary. Children are on their own when it comes to composing the text of their stories, poems, or plays.

Story titles must be 12 characters or fewer. Kidwriter wouldn't let me use an apostrophe in my title, so I couldn't call

my story "Skipper's Find," as I'd planned.

Moreover, I couldn't coax Kidwriter to print on my IIGS/ImageWriter II combination, although the program worked just fine on a similar IIc setup with a color ribbon.

### **MICROZINE 21: FILL IN THE BLANKS**

Fill in the Blanks is unique in two ways. First, it's not a solitary program: It resides on disk with three other programs (Robot Rescue, Fabulous Kids, and Monitor Mystery) that comprise this volume of Microzine, Scholastic's magazine-on-disk. This four-for-the-price-of-one deal makes Microzine's list price (\$39.95) quite reasonable.

Second, Fill in the Blanks not only stimulates creative thinking, but also helps kids learn about parts of speech. While writing his or her own story, a child leaves a word blank, substituting instead a hint that the word is a noun, a plural noun, a name, a place, a number, a color, an adjective, an adverb, an -ed verb, an -ing verb, or an exclamation!

After printing the story, the author can fill in the blanks, have younger siblings fill them in, or share these incomplete stories with friends. Or, print a number of copies of the missing-word story and ask each member of the family to fill in his or her own words. Some evening when the television happens to be off, encourage each person to read his or her story aloud.

### **STORY WRITER**

A more grown-up interface that should appeal to teenagers makes Story Writer (suggested age range 8-14) stand apart from the three programs described so far.

Story Writer has 40 colorful graphics scenes, each designed as a tickler to stimulate creative thinking. One scene shows a classroom filled with attentive students—except for the one who's sleeping

behind a book. Another scene shows a station wagon packed with luggage, a beach toy, and roller skates. Still another shows two boys engaged in a seeming disagreement.

Your child can add captions to one or more of these scenes, then include them in a printout when he or she "publishes" the story. The youngster may decide to have a full page of text, or a scene interrupting the text, or two scenes with text in between. Each printed story automatically includes a title page.

The manual contains a proofreading checklist and hints for using the program's various scenes. Additional activities suggest making a book of poetry or developing story ideas from clauses such as "My family likes to . . ." or "I had the best day in school when I . . ."

Story Writer supports about three dozen printer models and four dozen interfaces, but, try as I might, I couldn't print the story from the GS' printer port.

### **THE WRITING ADVENTURE**

Of the five programs reviewed in this Field Trip, The Writing Adventure may well be the most engrossing. Designed for children aged nine and up, the program is a truly interactive adventure story.

Kids not only participate in an adventure that takes them deep inside a secret cave, they actually write the story line while exploring various colorful scenes. The program prompts youngsters by asking such leading questions as "What was Bethany doing when she discovered the

## **Product Information**

### **Cotton Tales**

Mindplay  
100 Conifer Hill Drive  
Building 3A  
Danvers, MA 01923  
(617) 774-1760  
\$49.99  
ages 4-8

**Reader Service Number 300**

### **Kidwriter**

Spinnaker Software  
1 Kendall Square  
Cambridge, MA 02139  
(617) 494-1200  
\$39.95  
ages 6-10

**Reader Service Number 301**

### **Microzine 21: Fill in the Blanks**

Scholastic Software  
730 Broadway  
New York, NY 10003

(212) 505-3000

\$39.95  
age 9 and up

**Reader Service Number 302**

### **Story Writer**

Learning Well Series  
Mindscape  
3444 Dundee Road  
Northbrook, IL 60062  
(312) 480-7667  
\$49.95  
ages 8-14

**Reader Service Number 303**

### **The Writing Adventure**

DLM  
One DLM Park  
P.O. Box 4000  
Allen, TX 75002  
(214) 248-6300  
\$39.95  
age 9 and up

**Reader Service Number 304**

cave?" (Bethany was the heroine of my story.)

The Writing Adventure offers nearly unlimited choices about the directions in which you can move and the items you can carry. This branching feature makes The Writing Adventure suitable for use and re-use by one or more members of the family.

But The Writing Adventure isn't just about having fun and writing stories. It's about notetaking and proofreading, too. The author types notes while proceeding from scene to scene, stores these notes on disk, prints them, reviews them, and works the details they contain into the story.

Proofing Aid is a grammar checker that helps the writer find commonly misused words, troublesome verbs, and potential punctuation errors. The program finds the possible error, but lets the storyteller decide whether it requires a correction.

The Writing Adventure worked on both my IIc and IIGS systems, but it doesn't print graphics scenes, a disappointment after I'd been spoiled by some of the other programs already described. Nevertheless, The Writing Adventure features a winning combination: interactive adventure, notetaking and proofreading skill development, and creative enjoyment.

### UPDATE: GRAMMAR

Ever been stymied by the peculiarities of our beloved English language—which seems to have as many exceptions as rules? Have your children's questions on grammatical fine points put you "on the spot" once or twice?

The next time you need to know what a dangling participle is, don't panic. Pick up the phone instead, and call the Grammar Crisis Line or another of the three dozen "grammar hotlines" in operation

throughout the continental U.S. and Canada.

Most hotlines are manned by staff or faculty at colleges and universities, but at least one—in Oklahoma—is run by a former teacher and editor working out of her home. These telephone hotlines are available during regular business hours on weekdays. Their services are free. At press time, none offered a toll-free telephone number, however, so you'll probably want to contact hotlines in your local calling area to avoid long-distance phone charges. After all, you don't want to pay an arm and a leg every time a dangling participle threatens to ruin a sentence.

To receive a current listing of grammar hotlines, send a stamped, self-addressed, business-sized envelope to: Grammar Hotline Directory, Tidewater Community College Writing Center, 1700 College Crescent, Virginia Beach, VA 23456.

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## UPDATE: MATH

A few readers—including the company president and a schoolteacher—were disappointed in our coverage of the program Numbers of Fortune, in the mathematics Field Trip (“Basic Math Skills,” September 1987, p. 120). They noted that I neglected to praise the 40-pupil recordkeeping feature this program offers. I did—and for good reason.

From its inception, I’ve written Field Trip for parents, not teachers. My goal is to ferret out programs that are reasonably priced, offer educational value, and will work at home—where the major competitors of schoolwork and other learning activities are boom boxes, televisions, and VCRs.

Even though the Numbers of Fortune version I used resembled the popular TV game show only remotely, it wouldn’t surprise me if the program was “exciting”

to some students. Playing interactively at the computer may well be a novel and therefore enticing alternative to sitting, writing, reading, or listening to a teacher. Even if a program lacks color graphics, music, or an otherwise appealing interface, it still might attract kids—at school.

But Field Trip’s primary focus is on kids at home. Software critics, teachers, and parents alike want programs that have real substance and teach the basics—or transcend them as do the products highlighted in this month’s creative-writing Field Trip.

How programs deliver their message can spell success or disaster, depending on a number of variables, not the least of which is whether the child is part of a captive audience. At home, the kids aren’t captives, so the software has to be *captivating*. Field Trip looks for the kinds of programs that make the most of your

Apple’s—and your child’s—capabilities. We’re less interested here in recordkeeping utilities teachers like and of which software developers may be otherwise justifiably proud.

## NEXT TIME . . .

You’ll need your lab coat, safety glasses, and Space Cadet badge for the next two Field Trips. See you then! ■

*Cynthia E. Field is the author of Press Room, inCider’s bimonthly column on desktop publishing. She is a free-lance journalist specializing in computer-related topics. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a self-addressed, stamped envelope if you’d like a personal reply.*

## DIVERSITUNE™

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Diversi-Tune is a 2-port, 32-channel in/out, 5-msec resolution, MIDI recorder, with overdub, and punch-in/out audio editing, combined with a 32-voice polyphonic, 128-instrument, multi-timbral, stereo MIDI synthesizer, with 88-key piano, or “bouncing ball” lyrics display.

Whew! If you didn’t understand that, it just means a lot of great musicians are going to record a lot of great songs for

you to play on your Apple //gs. If you DO understand it, stop drooling and send for Diversi-Tune!

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## Enthusiasts!



**Open-Apple** is Tom Weishaar’s monthly newsletter for knowledgeable Apple II users. It’s thin but packed tight with Apple II lore, humor, letters, tips, advice, and solutions to your problems. Compared to other Apple II publications, **Open-Apple** has the highest new-idea-per-issue ratio, the clearest writing, the funniest cartoons, the longest index, the best warranty (all your money back if you’re not satisfied), and it takes up the least shelf space.

### Il cue #53

In the CP/M, MS-DOS, and Macintosh markets, communications software has always been dominated by shareware. Now the Apple II also has a high-quality shareware communications program. Don Elton’s *Talk Is Cheap*. You can download a copy from many bulletin boards, or send the \$30 shareware fee to Elton at 3207 Berkeley Forest Drive, Columbia SC 29209. For more information, see the March 1988 **Open-Apple**, page 4.13.

### From our fan mail:

Despite its small size, **Open-Apple** is the best Apple Information source I’ve ever found. Creating a forum for the global Apple II user community is a noble purpose.

Jerry Kindall, Grove City, Ohio

Let me add my appreciation to the chorus of Apple II users who have come to depend on **Open-Apple** for the most accurate, realistic, and down-to-earth information available.

Nevin Diener, Keezletown, Va.

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## Fun-Raising Projects

*Cook up an enjoyable and profitable project with choice ingredients—your Apple II and a host of graphics and desktop-publishing software.*



by Cynthia E. Field, Ph.D.

Could your club, school, or non-profit organization use extra cash for charitable activities, field trips, uniforms, or computer equipment? Whether you belong to the PTA, the Boy Scouts, or the girls' soccer team, you can turn your fun-raising Apple into a desktop-publishing fund-raising machine.

Linda Meyer and Janet Iwamoto-Lees, two enterprising educators from the Alhambra School District in Alhambra, California, added a few thousand dollars last year to their computer-equipment and field-trip coffers, thanks to **FredWriter** and **The Print Shop**. Using or enlarging upon their methods, you can expand your group's fund-raising efforts and have fun at the same time.

In the next Press Room, we'll explore how Janet Iwamoto-Lees turned her classes into first-class stationers. But first, let's look at one fund-raising project that anyone with any Apple II—and a healthy appetite—can tackle.

### TASTY MONEY MAKERS

Like many other schools, Marguerita Elementary School once lacked an ample number of data switch boxes, which would let the computer lab's 17 Apple IIs share four printers. Without the switch boxes, a student would have to save his or her work on disk, move physically to another computer connected to a printer, then probably wait in line before loading the file and printing. Very low-tech.

Linda Meyer realized that her students could earn the money to buy switch boxes by using the computer as a fund-raising tool. To prepare them for their venture into desktop publishing, Meyer taught the kids keyboarding first, then word processing. She and her students used the public-domain word-processing program **FredWriter**.

Next, Meyer prepared handouts and gave copies to each student. An attention-

getting letter to parents, prepared in an outline type style, explained the student's homework assignment for the night: to bring in a copy of one of mom and dad's favorite recipes.

Another handout students brought home listed the information needed. This flyer sported three **Print Shop** graphics featuring, quite appropriately, kitchen utensils, vegetables, and a roasting pot.

Your group could select from literally thousands of **Print Shop** graphics available in the public domain or from companies such as Teck/Parry Associates (**Christian Scenes and Symbols**) and Steele Publishing (Steele Publishing, P.O. Box 5493, Concord, CA 94524, 415-685-7265).

You can prepare good-looking handouts similar to the ones Meyer's classes used with nearly any word processor. To include catchy type styles like outline or shadow, you may need to use a program such as **MultiScribe** (versions are available for the enhanced IIe, the IIc, and the IIgs). If you use **AppleWorks**, consider an enhancement product like **TimeOut Superfonts** or **Printrix**. (See "Be Your Own Publisher," February 1988, p. 40, for company addresses and other details for these additional programs.)

Let's look now at the heart of this profitable desktop-publishing venture: typing, editing, and organizing all those recipes, determining a consistent format, and putting the pages together into an attractive booklet.

### DAY TWO

After Meyer proofed the contributions for sense, each child used the word-processing program to type the recipe he or she brought in—some 180 recipes in all from Meyer's six classes. Each recipe followed a definite format that included Title, Category (breads, main dishes, desserts), Ingredients, How to Prepare, This Recipe Was Donated By, and Typed By.



During subsequent class periods, the kids edited recipes and fixed errors. Most errors were of the ordinary sort: spelling mistakes, typos, incorrect spacing. But some could have been, if not nauseating, at least unsavory—substituting “tablespoon” for “teaspoon,” for instance.

Meyer duplicated the recipes, now ready for their one and only press run, in black-and-white on a plain-paper copier belonging to the school district. Two recipes fit on one 8½-inch-by-11-inch sheet of paper, printed on one side only. She then cut the sheets in half horizontally after printing, so that the final book was 5½ inches by 8½ inches.

Next, the students made recipe category dividers from colored paper. The cookbook's red index-board cover featured a freehand design created by student Astrid Onggosuwarno.

Your school, club, or organization might consider creating the cover with a computer-graphics program such as *The Print Shop*, **Dazzle Draw**, **Principal's Assistant**, **Paintworks Plus**, **Paintworks Gold**, **DeluxePaint II**, **816/Paint**, or **The Graphics Studio**. With a little experimenting, you could even create the cover with a suitably altered template from **Certificate Maker** or **Award Maker Plus**. (See “Be Your Own Publisher,” February 1988, p. 40, for details.)

At Marguerita School, two parents coordinated the cutting and assembling of the cookbook. The final 200-page book was spiral-bound. The fund-raising group provided the combs, and one of the fathers assumed the expense of punching the pages.

Meyer indicated that other binding options exist. For instance, the district has just purchased a **VeloBinder** machine, which uses a different kind of plastic spine. Three-ring binders might work, too, though the cookbooks probably wouldn't last as long in the average kitchen.

## TAKING ORDERS . . . AND FILLING THEM

Students printed advertising flyers and distributed them to relatives, friends, and neighbors.

According to Meyer, “We were hitting about 700 people. Word spread.” Unfortunately, Meyer was “thinking small” during her first publishing effort. “One mistake I made was that I printed the exact number of cookbooks needed to generate the \$500 the data switches would cost. We sold 100 cookbooks at \$5 apiece. I probably could have sold 700–800 books!”

What other changes would Meyer make? “I'd add a microwave category next time. Our recipes this time were mostly for main dishes and desserts, so I'd solicit more breads and soups. And I'd probably charge more for the cookbook, too.”

Linda Meyer and Shirley Gudal, Linda's associate at Alhambra's William Northrup School, are already coming up with fresh ideas to expand upon their newfound desktop-publishing experience.

“We may add a calendar where the customer could order special days put on it. Or a bookmark with a border from *The Print Shop* and a personalized message,” muses Meyer.

Whatever their venture, it's bound to meet with success. Says Meyer, “The kids take pride in a project they do themselves. The parents think it's a lot of fun.”

And Marguerita School now has its long-sought-after printer-sharing devices. ■

*Cynthia E. Field is the author of Field Trip, in Cider's column on educational software. Write to her at 60 Border Drive, Wakefield, RI 02879.*

## Product Information

### FredWriter

The Boston Computer Society  
One Center Plaza  
Boston, MA 02108

\$5 for members  
\$8 for nonmembers

May also be available through your local user group. For additional sources of public-domain programs, see “Striking Gold in Public-Domain Software,” February 1987, p. 46, and “BASIC Training,” this issue, p. 52.

Reader Service Number 313

### The Graphics Studio

Accolade  
20813 Stevens Creek Boulevard  
Cupertino, CA 95014

(408) 446-5757  
\$59.95

Reader Service Number 314

### Principal's Assistant

Mindscape  
3444 Dundee Road  
Northbrook, IL 60062

(800) 221-9884

(312) 480-7667

\$59.95

Reader Service Number 317

**The Print Shop**, \$49.95

**The Print Shop IIGS**, \$59.95

Broderbund Software

17 Paul Drive

San Rafael, CA 94903-2101

(415) 492-3500

### VeloBinder:

**Personal VeloBinder**, \$50

Binds up to 45 sheets

**OneEleven VeloBinder**, \$595

Binds up to 250 sheets

**Starter kit (for 16 sets)**, \$60

VeloBind Incorporated

650 Almanor Avenue

Sunnyvale, CA 94086

(800) 538-1798

(800) 672-1822 (CA)

(408) 732-4200

Reader Service Number 320

# NEW PRODUCTS

edited by Pat O'Dell

## Software

### STYLISH LETTERS

StyleWare's Font Library gives you access to **90 new fonts** for your Apple IIGs. The fonts are compatible with all "Apple standard" GS software. Font Library is available for \$39.95. Contact StyleWare, Inc., 5250 Gulfton, Suite 2E, Houston, TX 77081, (713) 668-1360 or (800) 233-4088, or circle Reader Service number 364 for more information.

### MORE WORDS

StyleWare's MultiScribe GS 3.0 **word processor** provides you with a large **spelling checker** and **thesaurus** that should help make your writing more

precise. The program's 80,000-word dictionary will search for words that sound or look the same, while the thesaurus can produce 470,000 synonyms.

MultiScribe GS 3.0 retails for \$99.95 (the upgrade costs \$20) from StyleWare, Inc., 5250 Gulfton, Suite 2E, Houston, TX 77081, (713) 668-1360 or (800) 233-4088. For more information, circle Reader Service number 365.

### THAT'S A FACT, JACK

FactWorks Volume 4 is the latest in ImagiMedia Software's series of **AppleWorks data disks**. The disk contains

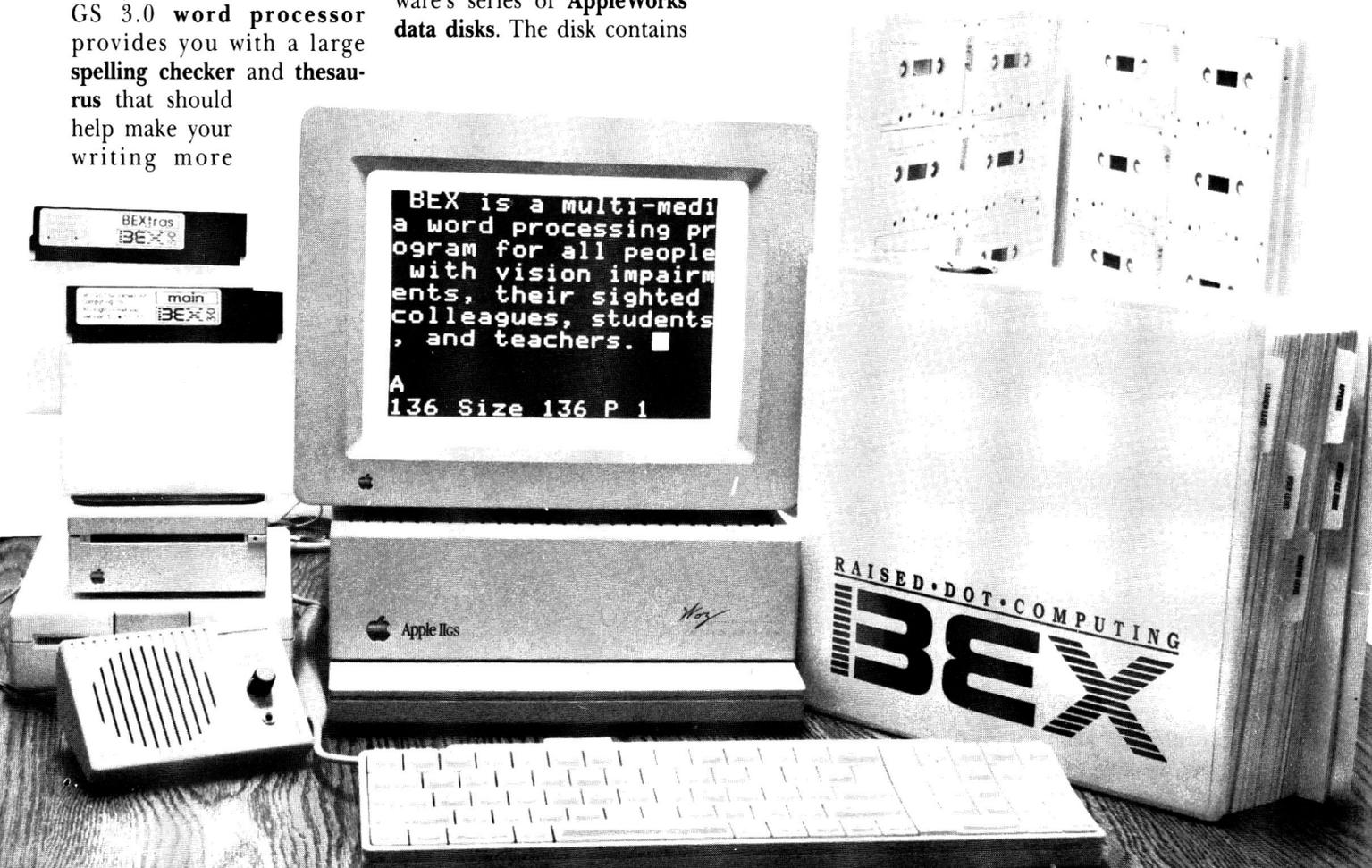
28 files of information on a variety of subjects, including sports and home reference. FactWorks Volume 4 is available for \$32.95. For more information, contact ImagiMedia Software, 16640 Roscoe Place, Sepulveda, CA 91343, (818) 894-1131, or circle Reader Service number 366.

### READ BETWEEN THE LINES

BEX 3.0, a **multimedia word processor**, is designed

for people with impaired vision and their teachers, students, and colleagues with normal vision; it translates print files into braille, and can also produce voice output with appropriate hardware. Documentation is available on cassette, in braille, or in large print. BEX retails for \$400 from Raised Dot Computing, 408 South Baldwin Street, Suite 6, Madison, WI 53703, (608) 257-9595. For more information, circle Reader Service number 376.

*The BEX word processor translates print files into braille.*



## CHARTING A COURSE

MagnaCharta will let you **graph** those numbers you've been working with for so long. You can either import text files or enter the numbers you want to graph. MagnaCharta uses Macintosh-style pull-down menus, and you can give commands through the keyboard, a joystick, or a mouse. The program is memory resident; 128K is required. It also supports color printing on the ImageWriter II.

MagnaCharta retails for \$59.95 from Third Wave Technology, Inc., 11934 Lorraine Avenue, Cleveland, OH 44111, (216) 671-8991 or (800) 233-WAVE. Circle Reader Service number 367 for more information.

## HELPING HAND

Teenage Stress Profile will help you understand the aspects of your **teenager's** life he or she finds most difficult. Designed for parents, teachers, and guidance counselors, it prints a report, based on the teenager's answers to a series of questions that detail the types of stress he or she is suffering. It also makes suggestions about dealing with that stress. Reports are based on norms for both teenagers and the general population.

Teenage Stress Profile is available in two versions—with one backup disk and a teaching guide for \$99, and a ten-disk lab package for \$287. For more information, contact

HRM Software, 175 Tomkins Avenue, Pleasantville, NY 10570, (914) 769-6900 or (800) 431-2050, or circle Reader Service number 368.

## "C" IT HAPPEN

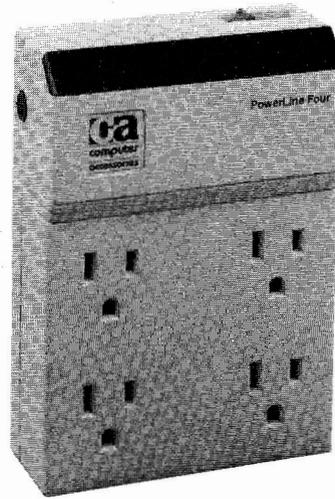
The first final version of the Apple Programmer's Workshop C 1.0, including APW object files, is now available. It features a standard **C I/O library** and **IIGS tool interfaces**. It also fixes several bugs present in the beta version. Members of the Apple Programmers and Developers Association can purchase version 1.0 for \$75. (Updates from the beta version are \$17.75.) For more information, contact APDA, 290 S.W. 43rd Street, Renton, WA 98055, (206) 251-6548, or circle Reader Service number 369.

## Hardware

## BIG RED ON BIG BLUE

Now you can run AppleWorks, or any other Apple II program, on an IBM Personal System/2. II in a PC is an **Apple II-emulation** package you use to transfer data between systems and disk sizes. II in a PC supports ProDOS, DOS 3.3, and Apple Pascal.

You can buy II in a PC in several different versions: an individual package for \$149.95, a School Pac with 12 packages for \$595, and a Net-



*Preserve your data with the Powerline Four S4A surge protector, which plugs into the wall.*

work version for up to 50 terminals for \$495. For more information, contact COMPUTER:applications, Inc., 12813 Lindley Drive, Raleigh, NC 27614, (919) 846-1411, or circle Reader Service number 370.

## CONSTRUCTING A COMPUTER

Fischer America Inc.'s Computing Experimental lets you learn how to use your computer to program and control **machines and robots**. Elementary computing and BASIC skills are necessary. The Computing Experimental kit, which includes the kit, interface, software, and power supply, is available for \$379 from Fischer America Inc., 175 Route 46 West, Fairfield, NJ 07006, (209) 575-3445. For more information, circle Reader Service number 371.

## PRACTICAL ACCESSORIES

Computer Accessories has a new **surge protector** that plugs directly into the wall instead of sitting on the floor.

PowerLine Four S4A has four outlets and is rated for 15 amps. This compact surge protector (3½ by 1½ by 5 inches) is available for \$34.95 from Computer Accessories Corporation, 6610 Nancy Ridge Drive, San Diego, CA 92121, (619) 457-5500. Circle Reader Service number 372 for more information.

## Resources

## SPECIAL NEEDS

You can find **special-education software** a little more easily now, thanks to LINC Resources' Specialware Database. LINC describes almost 800 programs. The \$175 database comes in ASCII file format, and also includes a series of help files. To order the Specialware Database, contact LINC Resources, Inc., 91 Vine Street, Pawtucket, RI 02861, (614) 263-5462. You can also buy additional files with more specialized information for \$10 and \$30 each. For more information, circle Reader Service number 373.

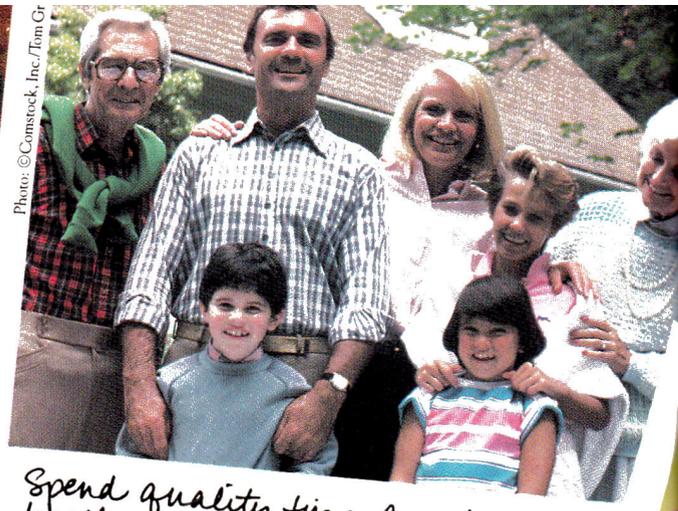
*Product descriptions contained in this section are based on information supplied to us by the respective manufacturers. These announcements are provided solely as a service to our readers and do not constitute endorsement by inCider of any given product.*

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*Businesses, schools, groups... communities everywhere sponsor free events during Computer Learning Month.*

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*Spend quality time learning together with our free Family Activities Guide.*

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*Discover how computers are helping kids learn with our free book for parents.*

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*By learning relationships and with...*

# Take Part In Computer Learning Month.

Free contests, books, events... Computer Learning Month is an easy, exciting way to discover more about computers. And to explore what they can do for you. Computer Learning Month helps people of all ages learn together. Because by learning together, we build better relationships. With computers. And with people.

### Contests Make Learning Fun.

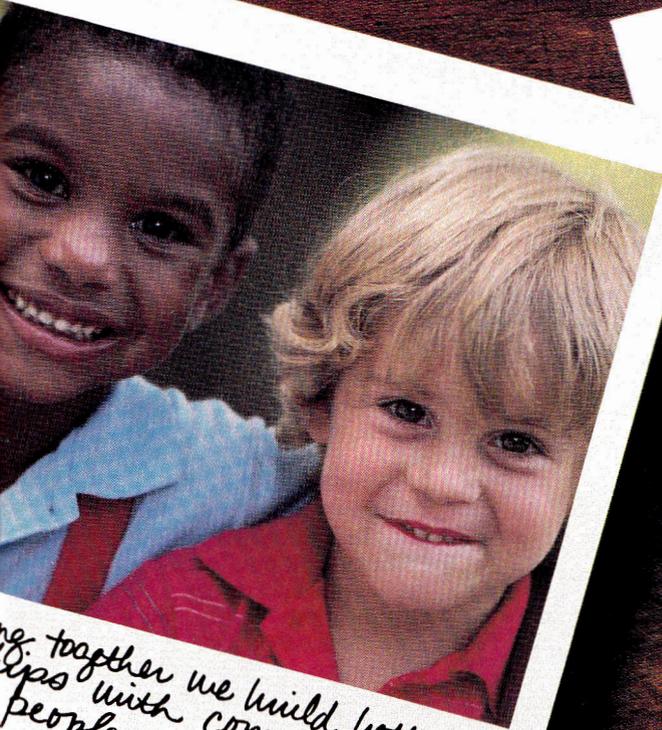
Win thousands of dollars worth of computers and software. And you don't have to own a computer to enter. There are contests for individuals and groups. Kids, families, even entire schools. Entering is easy. Participating is fun. And if you win a prize, your school wins one too.

### Materials Make Learning Easy.

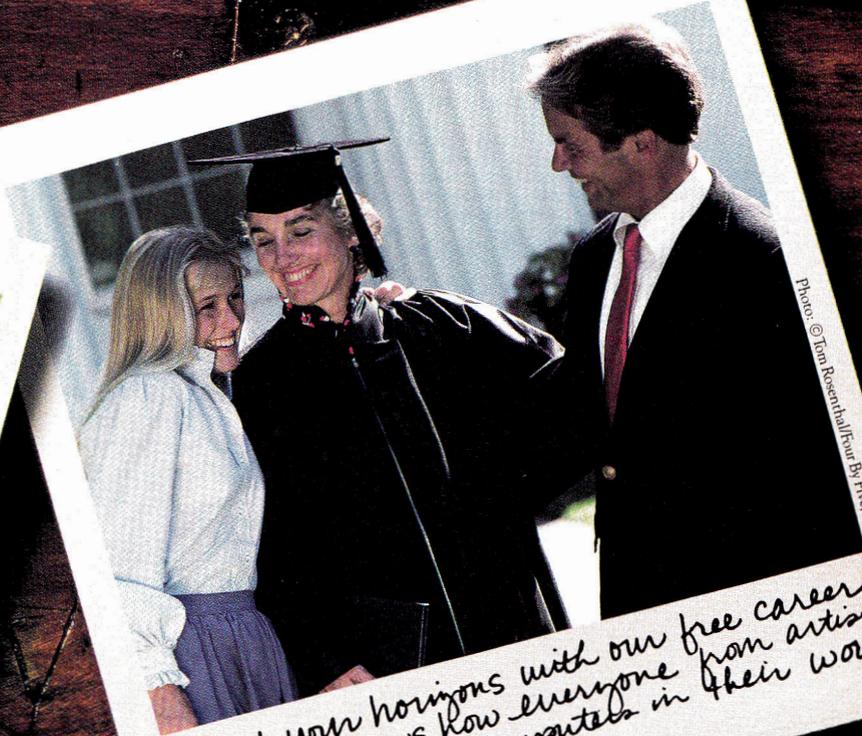
Easy-to-read materials are packed with how-to information for everyone. Our free book for parents explains how computers are used in learning. And our free career book shows how everyone from artists to zoologists use computers in their work. The Family Activities Guide helps families learn together. And for educators there are books with lesson plans and even a university software resource guide. Read at home, or share the fun... put on a community event with our Computer Learning Night Kit. Learn a little. Share a lot. Or choose anything in between.

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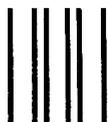
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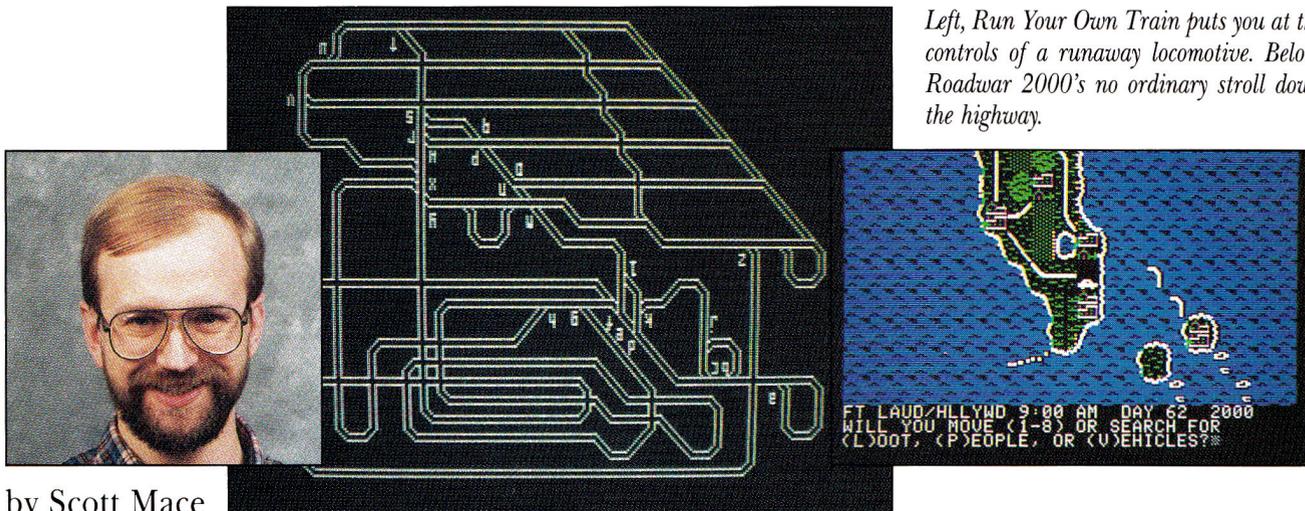


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## On the Road



Left, *Run Your Own Train* puts you at the controls of a runaway locomotive. Below, *Roadwar 2000*'s no ordinary stroll down the highway.

by Scott Mace

*“Hollywood still holds the franchise on violence. But you can do better.”*

**M**ovies and television have always catered to the destructive kid in us. Remember Pugsley Addams from the 1960s TV show *The Addams Family*? Pugsley loved to run two fully loaded model trains on a collision course at high speed and watch the resulting explosion and fire.

Not destructive enough? Then how about Mel Gibson as Mad Max, a futuristic “road warrior” leading a small band of survivors of a nuclear holocaust across a barren no-man’s-land inhabited by roaming outlaws.

Hollywood is famous for its violent, adolescent images. Now computer games and simulations continue the tradition—but even grownups will find these road trips worthwhile.

### WHERE’S THE BLOOD AND GORE?

With Abracadata’s **Run Your Own Train** (P.O. Box 2440, Eugene, OR 97402, 503-342-3030, \$34.95) the player times the crash. The collision results in a first-person view of a cracked

windshield or damaged boxcar before you hear the short “braaap” indicating the simulation is over—for now. It’s certainly less gory than the movies, but it’s more fun—and more challenging—to keep a runaway train from crashing into roving locomotives.

*Run Your Own Train* allows little room for error even in the most demanding situation. For a bigger challenge try **Design Your Own Train** (\$49.95), a companion product from Abracadata. Laying down curved and straight track, you design the entire layout, including the landscape and up to 26 operating switches.

Running the train lets you view the elementary scenery—buildings and telephone poles—through the cab window. There are no hills, valleys, tunnels, overpasses, or underpasses to obstruct your view.

With only four speed settings—express, freight, yard, and stop—the simulation prunes back reality for the sake of simplicity. For example, trains headed for a dead

end merely bounce back, reverse direction, and maintain the same speed. Want more excitement? Add boxcars to the engine and try to avoid bumping into things.

### WHEELS, STRATEGY, AND WARRIORS

In Jeff Johnson’s **Roadwar 2000** from Strategic Simulations, Inc. (1046 North Rengstorff Avenue, Mountain View, CA 94043, 415-964-1353, \$39.95; GS version, \$44.95), a Mad Max-type post-nuclear world takes on the dimensions of a futuristic war game. Using interactive-fiction mapping techniques, you control the movements and tactics of a small band of warriors on wheels.

In this strategy adventure you view cities, lakes, mountains, oilfields, and roads from the vantage point of a satellite—looking much as it would today. Searching for eight federal-government agents whose knowledge can halt the country’s slide into anarchy, your little group tries to cross the United States.

But *Roadwar 2000* is more

than just a walk along the highway. For starters, you can discover or capture a variety of vehicles—everything from vulnerable sports cars to rugged armed buses that come in handy during a *Road Warrior*-type encounter.

In addition, you'll run into organized opposition in most towns you pass through—sometimes a renegade National Guard unit, sometimes just a bunch of crazies. Often you must loot the town for the fuel and food you need to keep moving. But crime doesn't pay. If you pillage too long, the local authorities turn on your band in a short, unfair fight to your death.

You may also increase the size of your group—strengthening

your band with the addition of a doctor to patch up injured members, a politician to win friends and influence people, even a drill sergeant to shape up your gang's fighting ability.

One interesting aspect of *Roadwar 2000* is its ability to avoid actual battles. The game indicates war damage only through text, not graphics. *Roadwar* ends when the body count rises or your followers succumb to the hostile new world. Then the screen fades to black—no blood and guts.

By allowing a random "throw of the dice," your Apple weighs the relative strengths of clashing forces to determine the outcome. Players can leave the tactical battles to the computer and concentrate on strat-

egy decisions: When should you stop and find more fuel? Should you drop some food to carry more medicine? There's plenty of decision making here to satisfy both the war gamer and the peace-loving strategist.

Both *Run Your Own Train* and *Roadwar 2000* point the way to bigger things for would-be wanderers, whatever your mode of transportation. *Run Your Own Train* demonstrates that maps can be transformed into living worlds, thanks to the technique of first-person perspective borrowed from the flight-simulator genre. *Roadwar 2000* proves that Ultima-style adventure-game strategies, such as battle, negotiation, and compromise,

can be incorporated into sophisticated game maps.

Hollywood still holds the franchise on violence. But you can do better; you can meet the challenge of saving the train—or civilization—from destruction. Perhaps someday you'll be able to follow a map and zero in at any point on a first-person perspective—it'll be nothing less than the world in microcosm. ■

*Scott Mace is editor and publisher of Microcosm, a monthly newsletter on computer games. Write to him at 6510 Copper Ridge Drive #T-1, Baltimore, MD 21209.*



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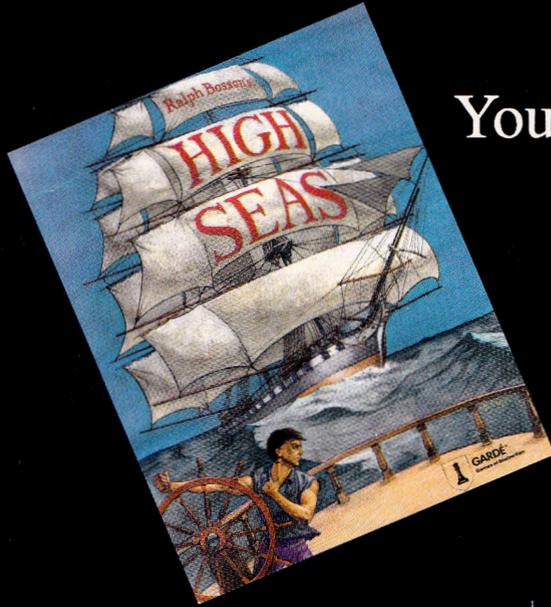
Our next view offers a glimpse of the majestic Tower Bridge and Tower of London at dawn. Other British highlights include Buckingham Palace, Westminster Abbey and Stonehenge.

Check back with us next month as we fly to Paris, France.



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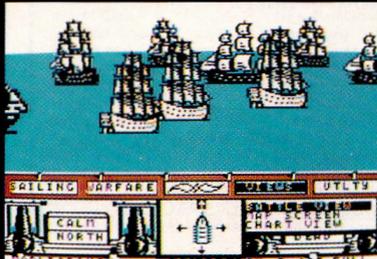
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Neil Shapiro in the Nov. 87 issue of Nibble stated "Now he's done it again better than I, for one, even imagined it could be done", then went on to say "The first time you play a multi-ship scenario and see the opposing fleet arrayed in line, full sail against you, it's an unforgettable experience"

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From the July issue of A+ Russ Lockwood stated "...holds so much realism you will quickly find yourself wondering if you've stepped into a time warp to the battlefields of Antietam, Gettysburg and Chickamauga."

From the April Issue of Nibble Neil Shapiro said "...the American Civil War... look no further than Blue Powder Grey Smoke" then continued "The graphics provide the real kick to the game, a visual piece de resistance"

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## File Reader

by Stephen M. Lawson

"Open-and-Read Case" (Apple Clinic, May 1987, p. 20) asked for a program that opens, reads, and displays any type of ProDOS file. Two short programs, Text Read and File Read, do just that.

Run TEXT.READ (see Listing 1) to display TXT-file contents on screen. TEXT.READ asks for the filename and BLOADS it at a known location. It then checks ProDOS for the load address and length, PEEKs at loaded field contents, and PRINTs the equivalent ASCII character.

FILE.READ (see Listing 2), a slightly more complex program, displays the file contents in strings you can then manipulate in some manner. The program requests the number of blocks (SZ), filename (FI\$), and file type (TY\$)—all obtainable from the ProDOS directory. The ProDOS error "no buffer available" occurs if you specify a block size smaller than required. It then creates a matrix (XX\$) of 128-character strings to be filled with the file. FILE.READ BLOADS the file into the matrix (at BA), and uses the file length (BL) to calculate the number of strings (NO) actually used.

You must DIMension the matrix (XX\$) before defining (or using) any strings, then determine its location (BA) immediately after filling the matrix with blank lines. Also, be aware that modifying any

Listing 1. Text Read displays ProDOS text-file contents on screen.

```
100 REM TEXT.READ BY STEPHEN LAWSON [2219]
101 REM COPYRIGHT 1988, INCIDER [1844]
110 PRINT : INPUT "FILE: ";F$ [1097]
120 D$ = CHR$(4) [796]
130 PRINT D$"BLOAD"F$,TTXT,A$1000" [1738]
140 FIRST = PEEK(48855) + PEEK(48856) * 256 [2454]
150 LAST = FIRST + PEEK(48857) + PEEK(48858) * 256
      - 1 [3226]
160 FOR I = FIRST TO LAST: PRINT CHR$(PEEK(I));: NEXT
      : PRINT [2890]
```

Listing 2. File Read displays file contents in strings.

```
100 REM FILE.READ BY STEPHEN LAWSON [2182]
101 REM COPYRIGHT 1988, INCIDER [1844]
110 CLEAR : INPUT "NUM. BLKS: ";SZ: DIM XX$(SZ * 4) [2409]
120 FOR I = SZ * 4 TO 1 STEP - 1:XX$(I) = "
      " + " ": NEXT :BA = PEEK(11
      [10220]) * 256: REM "127 SPACES + 1 SPACE
130 INPUT "FILE NAME: ";FI$ [1267]
140 INPUT "FILE TYPE: ";TY$ [1340]
150 PRINT CHR$(4)"BLOAD"FI$,T"TY$",A"BA [2014]
160 BL = PEEK(48857) + PEEK(48858) * 256 [2228]
170 NO = INT((BL + 127) / 128) [1762]
180 FOR I = 1 TO NO: PRINT XX$(I);: NEXT : PRINT [2090]
```

string pointers scrambles the memory for all file elements. A practical limit to file size (SZ) in the 64K main-memory bank is about 65 blocks; the listing uses strings 128 characters long for convenience—a manageable length for Applesoft. Four strings equal one block.

FILE.READ converts any type of file to a TXT file by WRITing the file to disk instead of PRINTing it to the screen. The program lists the usual cautions about backing up files if you intend to experiment with memory changes (either with the matrix strings or by POKEs). Don't BSAVE to the original file unless you're certain about what's in memory, and where in memory it is. ■

Write to Stephen Lawson at 819 Cline Avenue, Port Orchard, WA 98366-4301.

## One-Key File Selector

by Derik Broekhoff

One-Key File Selector in Listing 3 exemplifies the beauty of the ProDOS OPEN command using the Ttype parameter. The program OPENS and READs a ProDOS directory or subdirectory and then displays the files in it—the answer to "Open-and-Read Case" (Apple Clinic, May 1987, p. 20). You can execute any of these files by simply pressing a key. I wrote the program under ProDOS version 1.1.1, but it should be compatible with most other versions.

Reading a directory or subdirectory is just like reading an ordinary text file, except you must use the TDIR parameter along with the OPEN command (as in line 230, where A\$ holds the directory's name).

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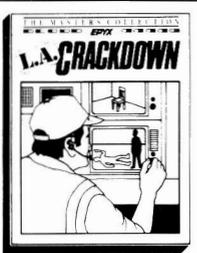
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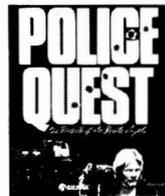
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This specifies that the file is a directory. I used the PREFIX command in line 200 to find the name of the volume in drive 1, but this doesn't reveal the number of files stored in the directory. To overcome this problem, make the program read in the directory line by line until it generates an END OF DATA error. When this occurs, an ONERR GOTO statement in line 220 resumes the program.

A directory reads in an array line by line the same way a CATALOG command displays the directory on screen. That is, printing each element of the array (F\$(I) in the listing) achieves the same effect as typing CATALOG from immediate mode. So, finding the names of all the files and their characteristics requires just a little string manipulation.

Once the program reads in the files, it displays them in groups of 12 or fewer. Each group of 12 constitutes a "page." If there are more than 12 files in the directory, you can use the right- and left-arrow keys to move between pages. The program assigns a letter to each file in a directory; to execute a file, simply press the letter corresponding to it. (For example, to execute the first file on a page press A.) If you press a letter corresponding to a subdirectory file, the program will read in the subdirectory. It can keep track of up to ten levels of branching subdirectories, which you can change by modifying the dimensions of DI\$(I) in line 180. When you press CTRL-R, the program reads new volume directories, and pressing ESC exits to BASIC.

One-Key File Selector can't execute certain binary files or most text files directly. To load these files, it's probably best to first exit to BASIC or to use another program. ■

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**Listing 3.** One-Key File Selector opens and reads ProDOS directories and displays file contents.

```

100 REM ----- [1313]
110 REM ONE-KEY FILE SELECTOR [1785]
120 REM STARTUP PROGRAM FOR [1724]
130 REM PRODOS... [949]
140 REM [350]
150 REM BY DERIK BROEKHOFF [1608]
160 REM COPYRIGHT 1988, INCIDER [1903]
170 REM ----- [1383]
180 D$ = CHR$(4): DIM DI$(10),F$(100) [1779]
190 REM LOAD IN FILES [1274]
200 PRINT D$"PREFIX,D1": PRINT D$"PREFIX": INPUT DI$(
1):B = 1 [2937]
210 A$ = "": FOR I = 1 TO B:A$ = A$ + DI$(I): NEXT : FOR
I = 1 TO 100:F$(I) = "": NEXT :NF = 1 [4650]
220 ONERR GOTO 270 [709]
230 PRINT D$"OPEN";A$;"TDIR": PRINT D$"READ";A$ [2392]
240 INPUT F$(NF):NF = NF + 1 [1518]
250 GOTO 240 [571]
260 REM DISPLAY [749]
270 POKE 216,0: PRINT D$"CLOSE";A$:NF = NF - 6 [2212]
280 PRINT : PRINT CHR$(21): TEXT : HOME :P = 1:NP =
NF / 12:NP = NP + (NP > INT (NP)):NP = INT (NP)
: IF B > 1 THEN PRINT "SUB"; [6387]
290 PRINT "DIRECTORY: ";DI$(B): PRINT "ENTER
LETTER TO RUN FILE, ARROW KEYS PAGE, CTRL-R FO
R NEW VOLUME, <ESC> EXITS" [7304]
300 PRINT "PAGE ";P;" OF ";NP: FOR I = 1 TO 40: PRINT
"-";: NEXT [2726]
310 S = 12 * (P - 1) + 1:E = S + 11: IF E > NF THEN E =
NF [3299]
320 FOR I = S TO E: VTAB 9 + (I - S): PRINT "<"; CHR$(
65 + (I - S));"> "; MID$(F$(I + 3),2,21); [4625]
330 IF MID$(F$(I + 3),18,3) = "DIR" THEN INVERSE :
HTAB 21: PRINT "DIR";: NORMAL [3287]
340 PRINT : NEXT [459]
350 VTAB 23: PRINT LEFT$(F$(NF + 5),40); [1706]
360 REM GET INPUT [971]
370 KB = PEEK (49152): ON KB < 128 GOTO 370: POKE 491
68,0 [2703]
380 IF KB = 146 THEN HOME : PRINT "READING IN NEW VO
LUME...": RUN [3288]
390 IF KB = 155 THEN HOME : END [1345]
400 IF KB = 136 THEN P = P - 1: GOTO 490 [2021]
410 IF KB = 149 THEN P = P + 1: GOTO 490 [2034]
420 IF KB < 193 OR KB > 193 + (E - S) THEN 370 [2540]
430 F = KB - 190:FL$ = MID$(F$(S + F),2,15) [2492]
440 VTAB 6 + F: INVERSE : PRINT "<"; CHR$(62 + F);">
";FL$: NORMAL [2681]
450 REM GET PREFIX IF DIRECTORY [1991]
460 IF MID$(F$(S + F),18,3) = "DIR" THEN B = B + 1:
DI$(B) = FL$: FOR I = 1 TO 15:DI$(B) = LEFT$(DI
$(B), LEN (DI$(B)) - (RIGHT$(DI$(B),1) = CHR$(
32))): NEXT :DI$(B) = DI$(B) + "/": GOTO 210 [9675]
470 REM OTHERWISE EXECUTE FILE [2006]
480 PRINT D$"PREFIX";A$: PRINT D$"-";FL$: NEW : END [2342]
490 IF P < 1 THEN P = NP [1388]
500 IF P > NP THEN P = 1 [1396]
510 HOME : GOTO 290 [790]

```



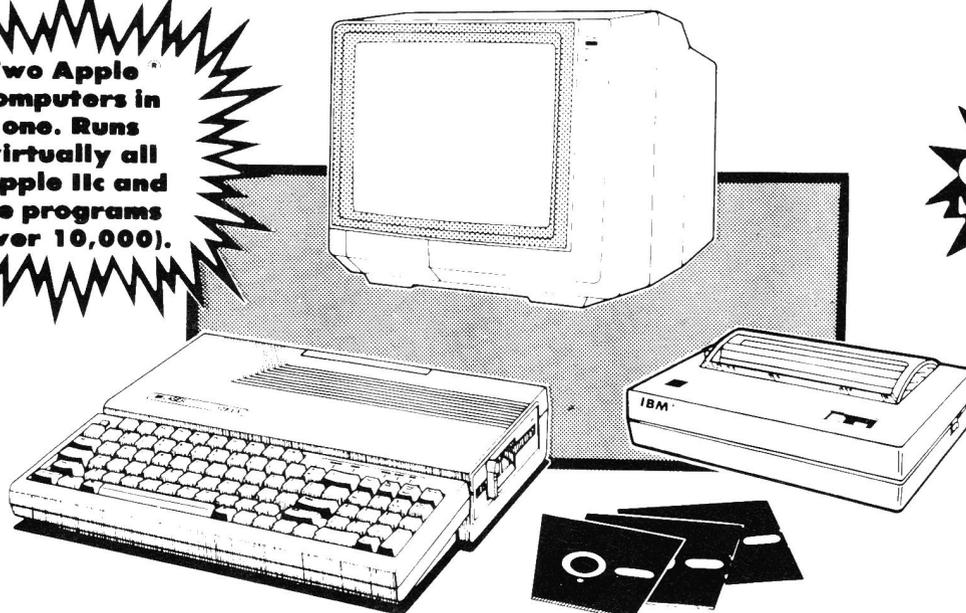
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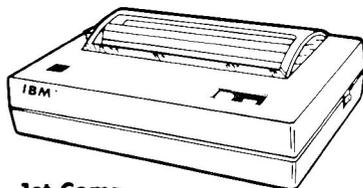
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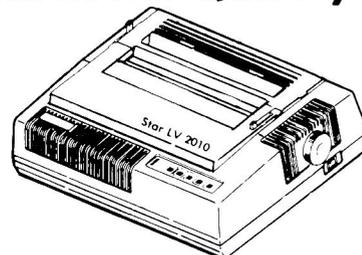
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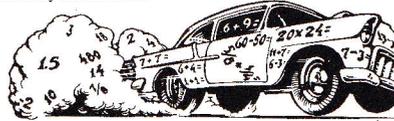
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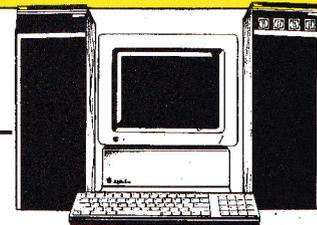
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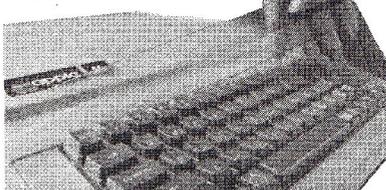
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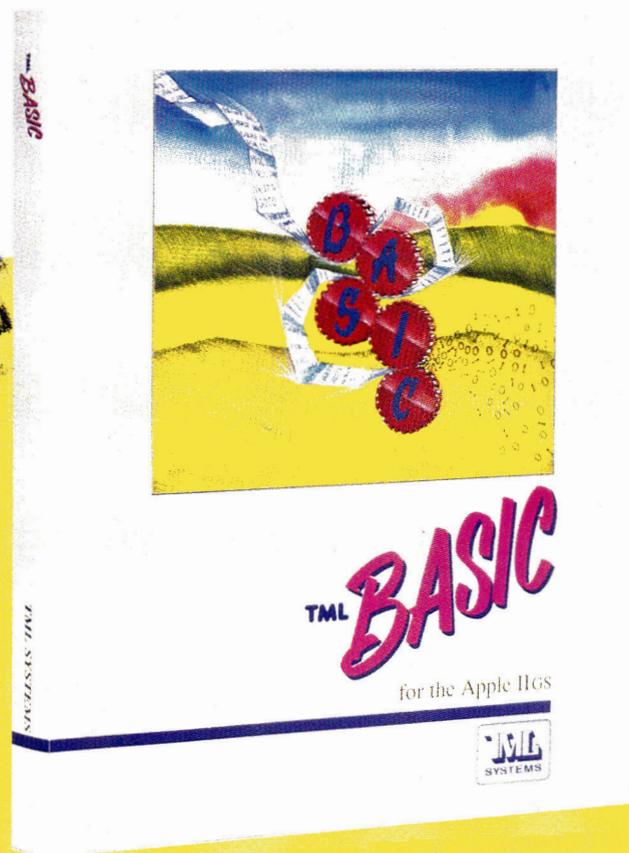
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```
10 DO A
20 DO B
```

And so on. An event-driven program, on the other hand, looks more like the sample code listed below:

```
DEFINE EVENT A
DEFINE EVENT B
DO NOTHING UNTIL
  EVENT A
  DO A
  EVENT B
  DO B
```

Sure, it's longer and not as easy to write. But an event-driven program is much more flexible than a sequential one. An event-driven program, for ex-

ample, doesn't open with a "title screen." It jumps right into the middle of the action. You'll discover that the difference between the GS Desktop and the ProDOS User's Disk goes deeper than the "look."

A TML BASIC program lacks line numbers—not for your convenience (although that helps), but because it gives your code some organization, like a program written in Pascal or C. It's the way programmers write for computers these days—it's the programming style at the heart of Apple's friendly interface, with its menus and mouse.

As Senior Editor Paul Statt notes, "Event-driven programming is the next big thing. Actually it's several years old, but programming textbooks, community colleges, user groups, and the Apple II are just now catching up. TML is the first structured BASIC for the Apple II. It's probably the first structured *language* for the Apple II, period."

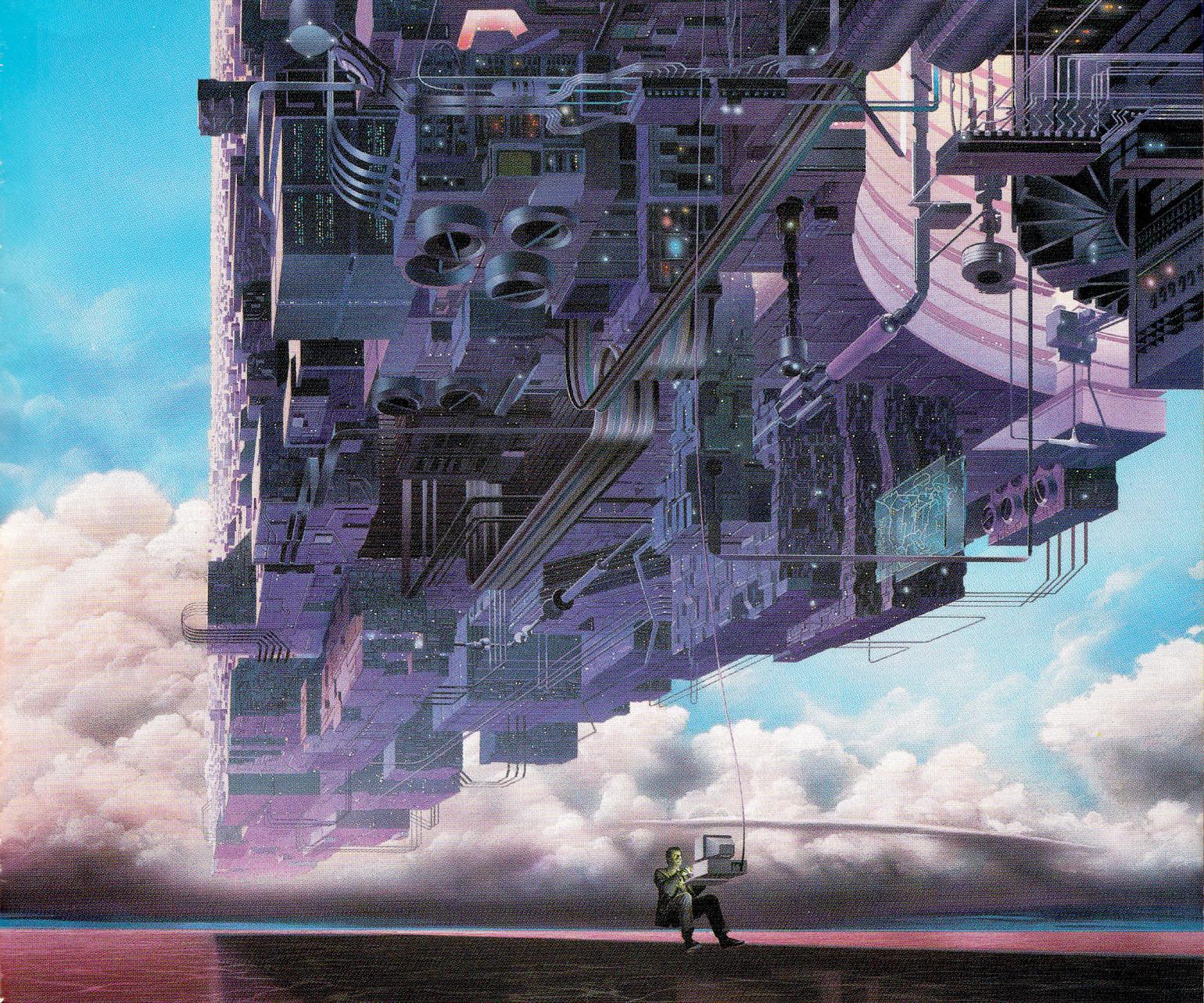
TML BASIC sports the now-familiar "human interface": a bar across the top of your screen with pull-down menus loaded with options and commands. To begin programming, simply pull down the File menu, click on Open, and you're ready to roll. You'll see a text screen

where you enter your program.

The TML BASIC manual is divided into two parts: a section on the basics of BASIC (if you're just starting out, start here) and a section on the IIgs, where you'll learn how to use Apple's built-in Toolbox in programming. (Think of it as an incredible selection of powerful PEEKs and POKEs, if that helps.) Many of us have waited almost two years for a painless way to type in simple commands and see the results on the Apple IIgs: Now TML BASIC has done it.

TML BASIC retails for \$125. You'll need 512K on your GS, but TML recommends 768K to give yourself more flexibility. This programmer's choice is from TML Systems, 8837-B Goodby's Executive Drive, Jacksonville, FL 32217, (904) 636-8592. That's basically it. ■

*Every month, hardware and software manufacturers release dozens of new products into the Apple II market. Editors' Choice singles out one product each month that the inCider editors feel is a significant addition to the Apple II family of products. Products evaluated in Editors' Choice are among the most recent releases and may not be available yet for retail distribution.*



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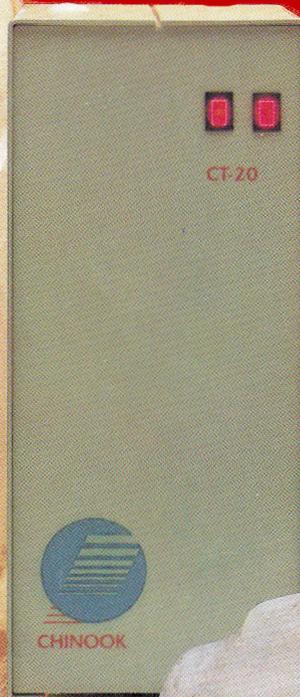
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